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13 December 1985

Worldwide Report

**NUCLEAR DEVELOPMENT
AND
PROLIFERATION**

FBIS FOREIGN BROADCAST INFORMATION SERVICE

13 December 1985

**WORLDWIDE REPORT
NUCLEAR DEVELOPMENT AND PROLIFERATION**

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JAPAN

GOVERNMENT TO SUPPORT U.S. ON NUCLEAR ACCORD

OW040901 Tokyo KYODO in English 0837 GMT 4 Nov 85

[Text] Tokyo, Nov. 4 KYODO -- The Japanese Government intends to agree with the United States on revision of a 17-year-old Japan-U.S. atomic power agreement pending a bilateral accord on the proposed U.S. package approval of Japanese plans to reprocess spent nuclear fuel to produce plutonium, government officials said Monday. The new Japanese policy will be explained at a meeting of Japanese and U.S. officials on atomic power policy, the 13th of its kind, to be held in Washington from November 13, the officials said. They said Japan will accept tightened U.S. controls on the transportation and reprocessing of spent nuclear fuel coming from Japanese atomic power stations and utilization of plutonium obtained through its reprocessing. The U.S. has asked Japan to agree to the "prior consent" principle in manufacturing uranium fuel enriched up to more than 20 percent rather than several percent for conventional atomic power reactors and in storing plutonium under the 1978 Nuclear Nonproliferation Treaty, they said. They said the American demands are made in return for their proposal to adopt a "package consent" formula instead of the present system of seeking individual U.S. approval in advance, which is mandatory as Japanese electric power companies use uranium fuel enriched in the U.S. The proposed revision of the Japan-U.S. atomic power agreement will enable the Japanese utilities industry to operate its projected nuclear fuel reprocessing plant in Aomori Prefecture, northern Japan, more smoothly. Construction of the plant is expected to be started soon with consent of the local residents. Japan's first such plant is operating in Ibaraki Prefecture, north of Tokyo. At the Washington meeting, however, the government hopes to obtain U.S. concessions on their right to suspend unilaterally a package approval to be accorded Japan, the officials said.

/9365
CSO: 4160/015

JAPAN

DISARMAMENT WEEK ENDS WITH ANTINUCLEAR RALLIES

OW271057 Tokyo KYODO in English 1050 GMT 27 Oct 85

[Text] Tokyo, Oct. 27 KYODO--United Nations Disarmament Week commemorations reached a climax Sunday as some 700,000 demonstrators turned out across Japan to take part in anti-nuclear and disarmament gatherings. A crowd of some 150,000 union and grassroot group members participated in the central anti-nuclear rally at Tokyo's Ueno Park, marked by song, dance and a message to leaders of the Soviet Union and the United States.

Participants, including members of Sohyo (General Council of Trade Unions of Japan), called for upholding Japan's anti-nuclear government policy and voiced strong opposition to lifting the current limit (of one percent of Japan's gross national product) on defense spending. They also criticized visits by officials to Shinto shrines, including Prime Minister Yasuhiro Nakasone's controversial August visit to Yasukuni Shrine, where the nation's war-dead are enshrined.

In addition to Sohyo members, representatives of two other major union groupings, Shinsanbetsu (National Federation of Industrial Organizations) and Churitsu Roren (Federation of Independent Unions) took part in the Sunday rallies. Sohyo head Takeshi Kurokawa, in a speech at Ueno Park, urged strong support for the resignation of the Nakasone cabinet, accusing the prime minister and his cabinet of leading Japan towards a new war. Japan Socialist Party Secretary Makoto Tanabe and Komeito Party Dietnam Akira Kuroyanagi also addressed the rally.

Meanwhile, a crowd of some 30,000 took part in a massive "die in" at Osaka's Nagai Park.

/6662
CSO: 5160/014

JAPAN

BRIEFS

CIVIC GROUPS PROTEST FRENCH NUCLEAR TESTS--Tokyo, Oct. 28 KYODO--Japanese civic groups urged France Monday to suspend nuclear tests on the South Pacific atoll of Mururoa. Representatives of the 11 civic groups called at the French Embassy in Tokyo and handed in the written demand. It included a protest about the involvement of French agents in a bomb attack in New Zealand on the "Rainbow Warrior," a ship belonging to the international environmentalist group Greenpeace. They said they are considering calling on the Japanese public to boycott French products until France suspends its nuclear tests. They also plan to launch a campaign urging consumers to buy New Zealand products in support of New Zealand's nonnuclear policy. [Text] [Tokyo KYODO in English 0950 GMT 28 Oct 85 OW] /6662

CSO: 4160/011

CANADA

AECB BANS CAMERA DEVICE AFTER LEAKS OF RADIOACTIVE DUST

Ottawa THE CITIZEN in English 26 Sep 85 p C11

[Text]

The Atomic Energy Control Board has banned a camera device used to test pipeline welds after seven of them leaked highly radioactive dust, the agency said Wednesday.

The ban will take effect Jan. 1 to give Atomic Energy of Canada and the manufacturer, Pneumat-A-Ray Products of Edmonton, time to develop a new system.

Seven of the capsules containing Iridium-192 have leaked during the last 14 years. At least three of the leaks posed significant health and safety risks, board spokesman Hugh Spence said.

Nobody has been injured or received more than the maximum allowed dose of radioactivity.

Spence said delaying the ban until the new year will not cause undue risk because companies using the device are being notified about the possibility of leaks and inspections will be stepped up.

/8309
CSO: 5120/25

CANADA

CHARGE OF ILLEGAL USE OF URANIUM FOR WEAPONS DENIED

Clark Denial

Toronto THE GLOBE AND MAIL in English 1 Oct 85 p A4

[Text]

Canadian Press

OTTAWA

External Affairs Minister Joe Clark said yesterday he has seen no evidence that Canadian uranium is being used to make bombs, and he challenged opposition critics either to give him the goods or hold their tongues.

But Jean Chrétien, former Liberal external affairs minister, and Liberal MP Lloyd Axworthy said it is not the job of the opposition to do Mr. Clark's work for him.

In the Commons, Mr. Axworthy said the Government should suspend all uranium exports until the allegations have been investigated, while New Democrat Ian Waddell said the Government should launch a full public inquiry.

Suggestions that Canadian uranium is used in the weapons programs of France and the United States, in violation of Canadian treaties, were raised by the CTV public affairs program WS, aired Sunday, and a companion investigation by the Kingston Whig-Standard, an Ontario daily newspaper.

U.S. officials, however, said last week that Canadian uranium wastes

are not being used in the U.S. weapons program, as opposition MPs have contended.

Neither, however, are the safeguards exactly as the External Affairs Department has described them, officials said Friday.

Mr. Clark said he has "neither seen nor received any evidence to suggest that the treaty is not being respected."

"I invite the House not to make vague accusations, not to indulge in innuendo. If they have the facts, bring those facts to my attention and I will pursue them."

The controversy has centred on whether so-called depleted uranium is being used to make U.S. warheads. Depleted uranium is what is left after uranium ore is enriched to produce fuel for nuclear reactors.

Foreign customers buying Canadian uranium most often need it enriched, and all but one of the enrichment plants in the world are located in countries with nuclear weapons programs. Enrichment plants process uranium for both military and civilian needs.

All three enrichment plants in the

United States are operated by the Department of Energy, which makes nuclear weapons for the military.

Jim Alexander, a department official at Oak Ridge, Tenn., said Friday that there is no separate accounting at the enrichment plants for Canadian depleted uranium.

But he said all depleted material sent to weapons plants is labelled as uranium of U.S. origin. About half the uranium processed at the plants comes from U.S. mines.

Military and civilian uses for depleted uranium are tiny compared to the huge and growing stockpile of the stuff — about 274 million kilograms at last count.

Dave Sinden, head of safeguards and security for Canada's Atomic Energy Control Board, said that despite the comments by Mr. Alexander, the U.S. Department of Energy does maintain a separate inventory of Canadian tailings.

Under the Canada-U.S. treaty, no Canadian uranium in any form can be used for military or explosive purposes, including its use as fuel for reactors in nuclear submarines.

Other Officials

Toronto THE SUNDAY STAR in English 6 Oct 85 p A10

[Text]

OTTAWA (CP) — The Canadian government receives annual reports from the American government giving an account of all Canadian nuclear material in the United States, senior Canadian officials say.

"We receive their records and we maintain our own records," Dave Sinden, head of safeguards at the Atomic Energy Control Board, said in an interview.

"At any given time, we can (assess) how much enriched uranium there is, how much depleted (uranium) there is," he said.

Weapons program

Officials at the U.S. energy department have previously said they do not report to Canada on the status of depleted uranium stored in the United States and that they do not track the material by country of origin.

Contradictions between officials have helped fuel a controversy over whether Canadian depleted uranium is used in the American weapons program.

Depleted uranium, which has limited military uses, is what is left over after semi-processed uranium ore is enriched to produce fuel for nuclear reactors. About 75 per cent of Canadian uranium is enriched at U.S. plants operated by the energy department, which produces bombs for the U.S. military.

Thomas Niles, U.S. ambassador to Canada, tried last week to defuse the controversy by issuing a statement saying the Americans do keep track of nuclear materials, including depleted uranium that comes from Canada.

Mark Moher, head of the nuclear division at the external affairs department, said the Canadian government can determine from Canadian and U.S. records "that no depleted uranium of Canadian origin goes to weapons production."

Liberal and New Democrat MPs say Canada would have greater guarantees that its uranium is not used to produce warheads if plants in the United States were inspected

by the International Atomic Energy Agency.

But Moher said the Nuclear Non-Proliferation Treaty places no obligations on countries with nuclear weapons to open their nuclear plants to international inspection.

Opened plants

The Americans, French and British have voluntarily opened some of their plants to international inspections, but the Americans have excluded three enrichment plants from their offer. The plants are also used to produce highly enriched uranium for weapons production.

Canada does not back up the reporting system with the United States with its own inspections. Sinden said it has been tried in the past but abandoned because they were not worth the cost.

"There's just no incentive for these guys to violate the agreement," he said. "They have no need, no requirement to play dirty pool with a friendly country."

CANADA

ONTARIO HYDRO CHIEF URGES COMPLETION OF DARLINGTON

Toronto THE SATURDAY STAR in English 3 Oct 85 p A6

[Article by Bill Walker]

[Text] Without nuclear generating stations electricity bills in Ontario would jump 20 per cent, unemployment rates would rise sharply and industry would be "devastated," Ontario Hydro chairman Tom Campbell says.

On the final day of hearings held by the government's special committee investigating Hydro affairs — and, specifically, the Darlington nuclear station — Campbell warned that turning away from nuclear energy would be a costly mistake.

Take action

The committee — headed by Phil Andrewes, a former energy minister — will consider evidence gathered during the month of hearings and present a report in two weeks.

The report is to be filed with Premier David Peterson, whose government then will decide what action, if any, to take.

Campbell delivered a 22-page argument in support of Hydro's massive nuclear energy program.

He also announced that Hydro is considering all available non-nuclear options in its Supply-Demand Options Study, due next spring, to determine what type of generating capacity should be built after Darlington.

"But in the meantime, it simply would be unthinkable to cancel or defer any part of the four-reactor Darlington station, scheduled for completion in 1992," Campbell told the committee.

"Cancellation of this much-needed plant would be a serious threat to Ontario's energy security," he said. Among the "highly undesirable side effects," he said, would be:

- A 20 per cent increase in 1987 electricity rates;
- An average 9 per cent increase in rates each year from 1988 to 2005;
- The immediate need to build a coal-fired station at a penalty of \$5.3 billion in today's dollars. That price would cover the cost of materials and equipment that have been ordered and contracts that have now been signed on Darlington, Campbell said;
- The need for an energy conservation program.

Soaring emissions

"The substantial side effects include fewer jobs in Ontario, more acid gas emissions and reduced competitiveness in Ontario's manufacturing sector," he said.

"By 1990, our nuclear program will save us about \$2 billion each year (in 1984 dollars) in the cost of importing U.S. coal," he said, adding that the increased coal combustion would send acid rain-causing emissions soaring above acceptable levels.

Campbell acknowledged that Hydro has big debts — its debt, guaranteed by the province, now stands at \$23.6 billion. But he noted that the borrowing has not affected the amount or cost of money available to the rest of the province.

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CSO: 5120/25

CANADA

AECB PROPOSAL WOULD ALLOW NUCLEAR WASTE AT LOCAL DUMPS

Ottawa THE CITIZEN in English 7 Oct 85 p A5

[Text]

TORONTO (CP) — The Atomic Energy Control Board is proposing looser regulations that would allow low-level radioactive waste to be dumped in municipal landfills.

"There are limits to the degree to which we can afford, administratively or bureaucratically, to look after everything," board spokesman Hugh Spence said in a recent interview.

Spence said risk assessment studies have shown that disposing of some low-level radioactive wastes by conventional means poses no problems. So "our people are saying, let's establish some acceptable rules for this."

However, Sister Rosalie Bertell of Toronto, an internationally recognized nuclear physicist with the International Institute of Concern for Public Health, called the proposed deregulation "very reckless."

The policy would risk public health, particularly in light of recent recommendations from the International Commission on Radiological Protection calling for a lowering of exposure levels for the general public, Bertell said.

An aide to Ontario Environment Minister Jim Bradley said the province does not support the proposed deregulation.

Contaminated waste "must be handled with care and proper regulations," he said.

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CSO: 5120/25

CANADA

AECL PRESIDENT ON WASTE DISPOSAL, REACTOR DEAL WITH TURKEY

Ottawa THE CITIZEN in English 9 Oct 85 p A11

[Text]

If the Manitoba environment minister has evidence that underground storage of nuclear reactor wastes is unsafe, Atomic Energy of Canada president James Donnelly wants to see it.

Donnelly told a meeting of the Commons energy committee Tuesday that all the evidence compiled so far shows that reactor wastes, which will remain highly radioactive for almost as long as mankind has walked the earth, can be safely disposed of deep in underground vaults.

The research work, carried out at AECL's Whiteshell laboratory east of Winnipeg, is continuing and will be completed in 1991. AECL is owned by the federal government.

Manitoba Environment Minister Gerard Lecuyer said last week he has seen no evidence that underground storage is safe. But Donnelly said Lecuyer has offered no evidence contradicting AECL's findings.

A report released two weeks ago by AECL said research work completed so far shows there would be no radiation exposure at all for thousands of years. After that, radiation levels would be far less than radiation resulting from natural sources.

A site will be chosen in about 10 years. Construction would take another five years.

The plan being studied would see spent fuel sealed in special containers buried in chambers about 1,000 metres below the surface. The chambers would be located in rock formations known as plutons, found in the Canadian

Shield. A pluton is a mass of granite that has remained stable for millions of years.

Donnelly said that after the government has decided to go ahead with underground storage, it will then have to decide whether to accept spent fuel from other countries, particularly those that have purchased Canadian uranium or Canadian reactors. But such a step will be a political decision, he said.

Donnelly also told the committee AECL will tell the government by the end of the month how it proposes to finance construction of a \$1-billion nuclear reactor in Turkey.

But, he said, while negotiations are continuing on the sale, it is by no means certain the deal will be consummated.

A considerable amount of work remains to be done, particularly on financing the project, he said.

Under a proposal made by Turkey and accepted by AECL, AECL and other partners would own and operate the reactor for 15 years, making their investment back from selling electricity.

AECL has been considering two financing options. One would see the government underwrite the construction through the Export Development Corporation. The other would have the government insure the project against various risks during the time that AECL owns the reactor. A key risk is presented by potential political instability, as Turkey is a military dictatorship.

A sale to Turkey would mark the first reactor sale abroad by AECL in six years.

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CSO: 5120/25

CANADA

CHINA'S INTEREST IN CANADIAN NUCLEAR TECHNOLOGY DISCUSSED

Toronto THE GLOBE AND MAIL in English 11 Oct 85 pp A1, A2

[Article by James Rusk]

[Text] Peking--China has again become interested in Canadian nuclear technology, even though it had previously dropped Canada from its list of potential nuclear suppliers.

According to Canadian Embassy officials, while Ottawa has no immediate prospects of selling a Candu reactor to China, similar to one recently sold to Bangladesh, China is looking at the Canadian-developed Slowpoke system for possible use in central heating plants in Chinese cities.

Chinese cities are largely heated with coal and winter-time pollution is heavy in most cities in northern China.

To minimize pollution, many new apartment blocks are heated from central plants, which burn coal more efficiently than smaller furnaces.

While nuclear power plants are a key part of China's energy development, Canada had apparently been ruled out as a supplier because the Chinese decided to adopt only one form of nuclear technology for electricity production.

It chose the light water, enriched uranium technology of the United States and Western Europe, rather than heavy water, natural uranium of the Candu system.

The Chinese attitude toward Canadian nuclear technology started to change with this spring's visit to China by federal Energy Minister Pat Carney. The resumed interest was confirmed this summer during the visit of Chinese President Li Xianian to Canada.

During the visits, Canada was able to get its message through to the key official in China's nuclear plans, Vice-Premier Li Peng (no relation to the president, whom he accompanied to Canada).

Li Peng is a Russian-trained engineer who was in charge of building power systems in northeast China before moving to Peking where he rose from being head of Peking power to the entire ministry in charge of electricity.

He has also been put in charge of Chinese education and is the leader who seems to be heading the country's drive to adopt technology from North America, Japan and Western Europe.

Last fall, Canadian officials suggested Canada would be ready to talk if China were to reconsider its decision to adopt only one system.

At that point, the answer came back clearly that China wanted only light water reactors.

But when Mrs. Carney visited China in April she raised the possibility of China buying a Candu with Li Peng and evidently piqued his interest in Canadian nuclear technology.

During the president's visit to Canada in July, the Chinese delegation was taken to Ontario Hydro's Pickering plant and there the vice premier talked to energy officials.

He said he had not closed his mind to the idea that China adopt a second nuclear system but Canadian officials warned it would be "a good long time" before the change in attitude translated into sales.

The outlook looks somewhat brighter, however, for the small Slowpoke reactor developed by Atomic Energy of Canada and used to fire a municipal heat system. The Chinese want a careful look at it.

/8309
CSO: 5120/25

BULGARIA

REPORTS ON CONSTRUCTION PROGRESS OF KOZLODUY NUCLEAR STATION

Construction Successes Honor Holiday

Sofia STROITEL in Bulgarian 4 Sep 85 pp 1,3

/Excerpts of article by Minka Tosheva: "Non-Stop, Accelerated Work"/

/Text/ In the last issue of the newspaper, we wrote about the beginning of work on building the reinforced concrete block of the cupola of the reactor section of the 5th power block. Today STROITEL's social correspondent at the Kozloduy Nuclear Power Station (NPS), Minka Tosheva, acquaints us with further efforts toward resolving this important and responsible task.

The reinforced block on top of the cupola is already gleaming white because of the plastic pipes laid on it. These pipes will form channels with a length of 10 to 14 meters and a diameter of 225 milimeters. This is rather complex and precise work. Later I understood that their overall length is 2,500 meters. How could these pipes have been laid so quickly? Only 2 days before, the first four pipes had been installed, and while the young engineer Milan Milanov had been fretting that there had been no front for work, today they were already about to finish.

This means the reinforcers had kept their word about giving over the lower portion to the metal constructors on time.

I count on my fingers: in 144 hours the boys from the brigade of hero of socialist labor Dimitur Petrov had installed 130 tons of reinforcing steel, tens of thousands of welds had been made.

This morning I saw Georgi Ivanov, the reinforcers' technical leader. As always, he was hurrying toward the cupola.

"A lot of effort was necessary," he said. "At the peak moment welders from the brigades of Ivan Eftimov, Licho Kirilov, and others came to help. We are getting ready for the upper portion of the reinforced block, which is more difficult and responsible. We have to put in 200 more tons of reinforcing..."

On the eve of the 9th of September holiday, the builders and fitters at the 5th power block have achieved notable successes. In an extremely short time they have carried out the important production assignments that lie on the critical path to the beginning of the successful start-up of the 1,000 mw reactor. In only 2 weeks the reinforcers and metal constructors of the brigade of heroes of socialist labor Dimitur Petrov and Ivan Lichev, guided by Zavodski Stroezhi in Kozloduy, assisted by the brigades of Ivan Eftimov, Sava Pavlov, and Licho Lichev, completed the enlargement of one of the biggest and most complex construction elements of the reactor section, the cupola's reinforced block, carried out according to a new technical resolution for the first time here and in the world.

Under the blazing sun and in driving rain hundreds of Bulgarian, Vietnamese, and Polish workers, Soviet and Bulgarian specialists put great effort into the timely completion of this urgent task. At 5:00 pm on 31 August of this year, as foreseen in the program, after precise preparatory work, the complex operation of lifting the reinforced block from the ground to the cupola began. Under the leadership of engineer Iliyan Iliev, with a radiotelephone in the hands of Valentin Lozanov, a unit leader from the brigade of Ivan Lichev, along with communist Lyuben Borisov, work was skillfully set in motion on moving the huge body, weighing 240 tons and covering 1,030 square meters. The successfully concluded operation opened the way to mounting the cupola at the 66.50 meter level, which will take place in a few days. This was one of the most complex tasks that has been carried out thus far at the 5th power block.

Reports arrived at the general construction party committee about tasks assigned by the leadership of construction that had been carried out.

Specialists from the Control Welding Administration in Sofia successfully completed the testing of welds on the cupola. The pool for wet overflow came out right the first time from the hydraulics workshop. The fitting brigades of hero of socialist labor Gospodin Yordanov and Lyuben Stankov lifted the last fitted equipment for the hermetic portion of the reactor section. The polar crane of the brigades of Petur Germanov and Georgi Grigorov will be started up before the liberation holiday. The builders and fitters from Energomontazh in Belene have switched on the reserve start-up transformer ahead of schedule. Laying concrete has been completed at the 13.20 meter level of the Special Body site, as well as the bottom platform of the place where processed fuel is stored. The fitters from Energomontazh in Varna, together with the builders of the machine hall, decided to finish the castings for the pipes by 9 September, rather than the 15th, as scheduled. Reports about tasks finished ahead of schedule continue to come in.

Reactor Cupola Installed

Sofia STROITEL in Bulgarian 11 Sep 85 p 1

/Article by Minka Tosheva: "What Was Promised Has Been Carried Out With Honor"/

/Text/ On the eve of the liberation day holiday, the Kozloduy NPS was visited by Comrades Chudomir Aleksandrov, member of the Politburo of the Central Committee (CC) of the Bulgarian Communist Party (BCP) and first vice president of the Council of Ministers, and Grigor Stoichkov, candidate member of the Politburo of the CC of the BCP, vice president of the Council of Ministers and Minister of Construction and Rural Systems. Minister of Power Supply Nokola Todoriev, Svetozar Petrushkov, first secretary of the Okrug Committee of the BCP in Vratsa and the president of the Executive Committee of the Okrug people's council in Vratsa, Goran Ninov.

At the meeting which took place and included the participation of leaders of departments and general directors of economic organizations, the conduct of the construction and installation work at the 5th power block and more especially the reactor section, as well as the social-domestic program for construction of a new infrastructure in the city of Kozloduy were discussed. The representative from the Bureau of the Council of Ministers and head of construction at the NPS, engineer Oved Tadzher, entrusted to Comrade Chudomir Aleksandrov a report and promise on behalf of all the construction and fitting organizations which are working on construction of the 5th power block. After this, the guests became acquainted with the work at the most important construction sites. They ascended to the 41.40 meter level of the reactor section when the mighty Demag crane, guided by crane operator Min'o Georgiev, had raised the 240 ton, huge reinforced block to a height of 66 meters; only less than an hour earlier it had been lying over the reactor's cupola.

This was a regular, complex construction and fitting operation. Only 2 days before the 300 ton cupola had been installed; it covers 1,500 square meters. The hermetic portion of the reactor section was sealed. An important stage in the construction and installation work had been reached; this now brings the maximal construction work to the final, concluding stage in completing the hermetic zone. Conditions are being created for a truly pure zone at the 36.90 meter level for installation work. The promise accepted at the liberation day holiday was carried out with honor.

Water Shortage Problems at Kozloduy Site

Sofia TRUDOVO DELO in Bulgarian 6 Sep 85 p 4

/Article by Aneta Stoyanova: "Hot Working Days"/

/Text/ The unusually hot summer days evoked alarming droughts in Kozloduy too. Drinking water capacity fell. And much of it was needed to satisfy the needs of the NPS.

And while different construction organizations argued among themselves, the leadership decided to build a well for drinking water, Reney-2.

Early one morning, when the fresh coolness had not yet given way to the blazing sun, troops were welding at their places. Led by officer Yonchev, they were doing installation work on the pumping station columns. It is not necessary to observe a person for a long time to know that a healthy link had been formed by everyday relations between privates Emil Asenov and Yuliyan Asenov, corporal Svetoslav Martinov and sergeant Yolo Tsolov. In silence and with concentration, they helped fitter Tsvetan Torn'ov setting the plumb line for the pumping station columns. After that, electric welder Zlatko Denev attentively carried out a regular tank weld.

Not far away, troops were setting the support blocks for the 760 meter long pipes. One hundred thirty-four liters per second is the expected capacity; the more than 170,000 leva will equal the size of the construction and installation work.

Not without a feeling of pride, the military builders at this vitally important site recall the difficulties already overcome. The construction of the water pipe pumps from the pumping station to the reservoirs has been speeded up by about a month.

"The site was extremely difficult," the site technical leader, Ivan Lalov, explained in a businesslike way. "The deadlines were short. We theorized for a long time and finally decided how we could speed up the work. Instead of putting three pipes in one by one, we welded one to another in advance..."

The tight organization, the conscientious attitude toward work, the desire to solve the problems on time in the city of nuclear power, this was the main thing which determined the activity of the military builders.

A new victory has been won on the peaceful construction front.

Soviet-Bulgarian Cooperation at Kozloduy

Sofia POGLED in Bulgarian 9 Sep 85 pp 8,9

/Article by Mariya Atanasova: "A Land That Has Been Kissed"/

/Text/ On the eve of 9 September we were at the expanded Kozloduy NPS. As with all of Bulgaria, here too Geo Milev's audacious vision of "endless progress" is acquiring visible material and spiritual values.

We Bulgarians have a grateful memory. Today, when we hear the strains of the partisan "Roar, mountains and crags..." over the streets and squares filled with people, we recall Marshal Tolbukhin's regiments of troops. We greeted them with "Hello, brothers!"

We have shared bread and salt with the Soviet people through the past 41 years...

When Chekhov was translated into English, French, and German, they had trouble with the word "intelligentsia." Of course those languages have a concept of people who do mental labor, "kopfarbeiten," but the same moral and ethical sense is not there. In Russian the intellectuals have gone to the people, walked with the people, and then later began to come from the people.

"Vasiliy Ivanovich," a blue-eyed man introduced himself and added jokingly, "my first two names are like Chapaev's, but my last name is Sharaevski." He is a specialist in control-measurement devices and automation, and the communists at the plant chose him to be their party secretary.

"I am Valentin Genadievich. Do you know that your doves have learned my name and each morning they wake me with: 'Podgurski, Pod-gur-ski'," the president of the trade union committee of the Soviet specialists set the tone. His presidency is a social obligation, otherwise he is a chief with a mind-splitting duty, an engineer in charge of equipment supplies. And just imagine, he is a poet. We happened to see his notebooks with verses. We even read several of them, unpretentious, sincere, earthly. If they find someone who can put them to music, the nuclear power supply engineers will have their songs...

"In a certain sense, this construction is unique," engineer Sharaevski says. "The nuclear reactor which is being installed at the 5th power block is the first Soviet 1,000 MW machine outside Soviet borders. This is a new generation of VVER type reactors (water-water power reactor), with a capacity of 1,000 megawatts. At this moment it is the latest word in scientific-technical achievements in Soviet nuclear power engineering. The equipment for the 5th and 6th power blocks is being supplied by 27 enterprises in seven socialist countries, the work of not only Bulgarian and Soviet specialists, but also that of Poles, Vietnamese, Nicaraguans, Cubans, and Yugoslavs is being contributed.

"Still, why are we Bulgarians being favored with a 1,000 MW reactor?"

"So far the Kozloduy nuclear power plant has performed excellently. Its technological qualities and economic indicators are among the highest in the world."

Even as ordinary citizens we understood this. When the rivers were frozen during January and February, and the ships with oil and coal were blocked, and even some of the plants at the Maritsa Iztok were

down, the four reactors of the NPS in Kozloduy (each with a capacity of 440 megawatts) worked flawlessly. The words of Comrade Zhivkov resound today like a dream come true: "The Kozloduy NPS gives an outline to the direction of the development of power supply in our native land; it is the only thing which can make us independent from the coal, oil, natural gas, and hydroelectric power that are lacking here." We are obviously following the correct path. Scholars have calculated that one kilogram of uranium 235 contains the same energy as 2.5 million kilograms of the highest quality coal, and its reserves will supply power for humanity for more than 15 to 17 centuries.

The construction work at the 5th power block is nearing completion, and the contours of the 6th are taking shape.

The new generation of nuclear power reactors is still not familiar to the Soviet specialists. We should recall that the first reactor with a capacity of 1,000 MW began working at the Zaporozhe NPS only at the beginning of this year. This is a revolutionary leap in power supply engineering, which is complex and difficult, but necessary.

We are hurrying with the 5th power block, and the 6th as well.

We took a risk because the base was not yet constructed, and there were few specialists, and not everything was in order with living conditions. Those who were up to the risk we call "disturbers of the peace" and will make them heroes of labor; they will receive governmental awards. There are many such people at Kozloduy. We speak about our risk, but I think we have courage because right beside Sotir Chobanov, the plenipotentiary of the CC of the BCP and the Council of Ministers, we have Vasiliy Sharaevski, by Vasil Markov, the plenipotentiary of the Central Council of the Trade Unions, we have Valentin Podgurski. Oved Tadzher, the president of the Bureau of the Council of Ministers and the vice minister for energy, values the advice of Sapir Lvovich, the leader of the Soviet specialists.

Before beginning the most responsible operations in the installation of the hermetic cover of the reactor section, Vladimir Leontievich Karida, a welding and control technologist, had given instruction to 20 Bulgarian welders. He has been at Kozloduy for 4 years, his second daughter Mariya was born here. He seriously tried to convince me that the most important thing in the world is welding. "Where can you go without finding welding? From medical devices to nuclear plants. Just recall that the first human job completed in space was welding."

Vladimir Karida has built two nuclear reactors with a capacity of 1,000 KW at the Smolensk and the Kursk electric power stations. But he was not present when they were started up. He is sorry that when the 5th power block begins to work, he will be far away. "They will report about it on television." He recognizes the class of our welders, but he delicately hints that we are behind in automatic welding. This would ease the work of the fitters, would increase the quality and safety of control.

They still remember Dima Safarov here. He built the first reactors, a tremendous individual, an engineer known all over the Soviet Union. He combined an unbelievable mind with insane audacity and enchanting artistry. They also talk about Genadiy Sharanov, a merry fellow and the soul of the company from Kharkov.

We learned that the famous brigade leader Gospodin Yordanov and his wife Tsanka are friends with 100 families in the Soviet Union. "More than that," she later corrects us. Her colleague Kristo Slavov brings her a rose. She is happy, for today is her birthday, and we are her first guests, self-invited, in the morning. We did not ask how old she was, but she told us that she had spent 24 years following her husband. They liked Beli Izvor in the Vratsa Okrug, their son Vasko was born in Stara Zagora. After P. dop, the petrochemical place in Burgas, Vratsa, Vidin, Kozloduy. Furniture vans, hotels, cramped, rented quarters. Now they have a nice house.

Their living room is like a family museum of Bulgarian-Soviet friendship photos, souvenirs, letters. Cards come for New Year and on other occasions from Kharkov, Volgograd, Minsk, Moscow. Recently they heard from beyond the Arctic Circle, from the Kola Peninsula. They are also building a nuclear power plant there. How happy they were! Feliks Filkenshtayn had not forgotten them, that great specialist and cordial person.

"Great scientific institutes, construction officers, powerful enterprises, and ministries are engaged in our construction. Thanks to this healthy rear guard we are conducting a unique experiment, at the same time we are designing, building, announcing, and installing the equipment. An interesting phenomenon has been observed here. The specialists and workers feel they are a part of what they are doing. Their creative principles have been provoked. Audacious and original ideas are being born here. Cooperation is appearing with qualitatively new indicators. From pupils we have turned into partners who can be counted upon."

We walk amid the chaos of cranes, buildings, trucks, concrete haulers, dump trucks with panels and metal constructions. The people dressed in orange and blue overalls seem strikingly small. Yes, it is a great deed we have taken on here, in the land kissed by the commander and his boys... Here is the great river. Look at the sky; it changes along with it.

Engineer Valentin Podgurski discovered his last name among the defenders of Shipka Pass. Perhaps it was a coincidence, and perhaps it was a distant relative. Some of the specialists had liberated our nation in 1944 and they can still hum "How Pretty is the Bulgarian Land..." Time fairly and without bias arranges episodes, facts, events, personalities. Some are given over to oblivion, others are retained in people's consciousness, in the history of their country.

And a war veteran, Stanislav Ivanovich Posyuta, a construction engineer from Kiev, wants to return home. He misses his three grandsons. He has already spent 35 years at construction sites in the big country, he is tired. "It is time. We have finished the 5th power block. I like the Bulgarian builders because they are literate specialists and they love their work." "Will they make it from now on alone?" Stanislav Ivanovich Posyuta... /text missing from copy/

Here for the first time they have applied a new method of construction, which is called large-block installation.

Such men as Posyuta, Karida, Podgurski, Sharaevski, Sapir Lvovich, the engineering aces as they are called, there are about 500 of them. And each of them has professional and human links to our 13,000 builders, fitters, drivers, and unskilled laborers. By the way, is it right to pile up so many men and machines in one place? Is it not a terribly expensive pleasure to see the powerful cranes, now idle, against the Kozloduy sky? Power supply needs dictate shortening the deadlines. Indeed the guidance has grown more complex, there are two, and even in some places three shifts. This is also a risk. But there is no other way out. In terms of technology the site is a complex one, the processes take up much labor. Arguments arise. In their aspiration to move the start-up closer, some want to simplify the technology. But the authoritarian control of the Soviet specialists in regard to quality and reliability is mercilessly strict, because, as academician Korol'ov has said, if you have done a lot of work but done it poorly, everyone will soon forget that a lot was done, but they will long remember that it was poorly done.

Perhaps the best expression of the attitude of the Soviet nation to the construction on the shore of the Danube is as Sapir Lvovich put it: "We understand the importance of this site for Bulgaria's economy. That is why the Soviet Union regularly supplies the necessary equipment, as well as simultaneously seeking paths to shorten the declines for construction. The 5th reactor is the latest achievement in science and technology, with a high level of automation and absolute security." When asked how things will go in the future, he said: "I am certain of two things: that our cooperation in the field of nuclear energy will continue and that the future belongs to nuclear power."

This is how the Bulgarian builders and fitters speak about their Soviet colleagues. They give generously of what they have: knowledge, skills, professional secrets. They share their words and bread with us. Right at this moment they are building seven reactors with the same capacity there, and not everything is going smoothly with each one, but they calculate and send us what we need... Now it is normal to have three construction shifts. It has happened that a blueprint could not be read or a weld did not turn out right. What do they do? They say "shame" and send someone from the brigade to wake up the person responsible. There has been no case of a refusal.

Intelligence means not only higher education, but also a high moral feeling, spiritual beauty. These people have succeeded in rising above the boredom of a provincial city. And how! They have a club, they go on excursions, they visit each other, they swim in the Danube, catch fish. Perhaps they miss the theaters of Leningrad and Moscow, long for the museums, dream about the libraries. But the snobbish pose of weary intellectuals is alien to them. Perhaps this is because they have succeeded in retaining human goodness and cordiality, which people always need.

Political Leaders View Kozloduy Progress

Sofia RABOTNICHESKO DELO in Bulgarian 7 Sep 85 p 1

/Article: "The Workers Advance at the 5th Power Block"/

/Text/ Before the liberation day holiday, the thousands of workers in the collective at the Kozloduy NPS are noting new successes. Today they have successfully completed raising the heavy, close fitting bodies. In the morning they completed the operation of mounting the 240 ton reinforced construction of the cupola, which is the last phase in building the unique reactor section. They have started up a special crane that serves to assist in technological processes.

In connection with this important stage in construction, today there was a visit by member of the Politburo of the CC of the BCP and first vice president of the Council of Ministers Chaudomir Aleksandrov, candidate member of the Politburo of the CC of the BCP, vice president of the Council of Ministers and minister for construction and rural systems, Grigor Stoichkov, minister of Energy Nikola Todoriev, first secretary of the Okrug Committee of the BCP Svetozar Petrushkov, president of the Executive Committee of the Okrug People's Council Goran Ninov, leading members of the central departments and economic trusts. At the meeting the representative of the Bureau of the Council of Ministers and the head of construction, engineer Oved Tadzher, informed the visitors about the work done thus far and the tasks still ahead. He gave a detailed overview of the fulfillment of the program for building social and domestic sites, and they discussed questions related to the commercial services for the workers and residents of the city of Kozloduy.

On behalf of the collectives involved in building the NPS, Chudomir Aleksandrov was handed a report and promise for the CC of the BCP, in which it is pointed out that the plan for the first 8 months of the year was fulfilled at 123 percent, and in the same period construction and installation work worth 96 million leva was carried out.

Concerns About Shortcomings in 5th Block

Sofia RABOTNICHESKO DELO in Bulgarian 11 Oct 85 p 3

Article by Veselka Marinova: "At the 6th Power Block: Will the Mistakes of the 5th Block be Repeated?"

Text The rates at which the 1,000 MW reactor has been built in recent months are unbelievable and extraordinary. And if the 5th power block is unique as a piece of technological equipment, no less an impression is made by the changes here in the organization of work, in the way of thinking on the part both of leaders and workers. Perhaps the most precise evaluation about them is given by Dimitur Velinov, vice brigade leader in the brigade of hero of socialist labor Ivan Lichev: "This is the only site where everyone is watching his work. I have worked at many other places, but this is the first site where the leaders meet the sunrise and sunset with us. They work as hard or harder than we do..."

They have something to share: the experience of builders and fitters at the 5th power block. But let us not forget: many of these positive changes came about after a significant delay had developed here. Then a lot of equipment and workers had simply been piled up, and together with their experience from the first stage of the plant, these workers were sent here to deal with the start-up deadlines.

And everyone who is here working on the construction of the first 1,000 MW reactor in Bulgaria agrees that these mistakes made on the 5th should not be repeated on the 6th power block; thus our publication today is devoted to the problems which are not yet making things hot for the builders and fitters, but which are already knocking on the door of the 6th power block.

Its start-up deadline, June 1988, is not yet very close. Despite the desire not to repeat the omissions of the 5th block, there is already a 3-month delay at the 6th, and mistakes are not the exception.

The van of Slavcho Bozhinov, a technical group leader, is decorated with the schedules of 14 important assignments, which have to cut through the present lag and show the way to decrease delays. The ambition is that all underground communication lines be in place around the main building, and only then will the cranes start working. This is different from the 5th block, but it will ensure the machines' uninterrupted work. The way Slavcho Bozhinov talks these days, he does not lean too much toward optimism, rather to alarm. One of the cranes was installed 10 days late, and it is certain that the second will not be working at the time foreseen, the fault of the machine building combine in Kazichene. The builders from the Main Administration of Construction Troops are 20 days behind at the reactor section. It might seem like these are just a few days, but put together they make months, and this makes for a "marriage" of the two reactors.

Still, it would not be fair to affirm that the two reactors are alike in every way. The difference is in the approach to work chosen, in organization, which the leadership of construction has put efforts into, so that it could be created from the very start. In essence, if they succeed in carrying out everything that has been planned, the builders, fitters, and leaders will demonstrate in practice the possibilities for industrializing industrial construction.

The first innovation is already in operation; by 7 November work must be completed on the enlarged transportation corridor, where separate elements will be assembled into blocks. This will decrease the number of hoisting operations, will shorten the time that is necessary for installation, and will require less work and manual labor. "What has been planned for the 6th block has a truly grand scale, despite the fact that we executors have worked hard to streamline everything," says Slavcho Bozhinov. And if this can be accepted as a natural hesitancy before something new, the same could hardly be said for a number of other unresolved problems.

The first of them is that the necessary labor resources have not been secured for the simultaneous construction of the 5th and 6th blocks. The shortfall in reinforcing and assembling brigades is felt especially acutely. This is the reason why the construction troops have departed from the schedule for the block's underground communications, and along with the fitters from the construction and installation administration in Svishtov, this has become the reason for not assembling the tower cranes at the design site. We put this question about the cadres forth with all its urgency, because it essentially is a hidden response to another large question: will the construction of the 6th block fall behind, should we expect to think about this after we finish with the 5th block, or will the start-up deadline be guaranteed even now?

For now there is no governmental document which ensures the resolution of precisely this problem, but in Decree No 11 of the Council of Ministers of 14 March 1985, those ministries which have obligations to the 6th power block are pointed out quite categorically: energy, construction and rural systems, machine building, foreign trade, the State Committee for Planning, and the Committee for Labor and Social Matters. And if something has been undertaken, this should be done today, not tomorrow.

No less alarming is the untimely supply of special metals; they have not reached 2,400 tons, and the Ministry of Metallurgy must not only be shown understanding of this, it must persist in producing them.

The Ministry of Foreign Trade has "taken care" to repeat the weak performances permitted on the 5th block; technological consistency in the supply of equipment is lacking. Because of this, "now the builders and fitters will shut down construction, and then, as happened with the first 1,000 MW reactor, we will drag around what was obtained in the corridors and pits, we will expend even more unnecessary labor and funds," says construction head Dimitur Dinkov. In other words, the situation looks like this: the Ministry of Foreign Trade makes agreements which miss the start-up deadline. And in the final analysis all this hinders

construction not only in the 6th block, but will be a serious difficulty in future construction of nuclear reactors, because we are missing the ambition of the construction and installation collectives at the 6th power block to lay a foundation for an organized structure for the assembly line production of 1,000 MW reactors.

And there is another major question which the leadership of the Energoproekt Institute is still underestimating. The builders of the 5th power block received 4.5 million leva for construction which involved only partial design preparedness. Could this be permitted now, when the 6th block is identical to the 5th, when the changes in the 5th block have long ago been introduced, and which deal with the problem of partial design readiness? Is not this excessive waste of efforts and resources?

Taking the position that the design and construction of 1,000 MW reactors is not easy work at all, but keeping in mind the requirements for tight organization in work and excellent quality, we direct our questions to the leadership of Energoproekt and Chavdar Uzunov, the chief designer for Bulgarian plants: why have the blueprints for the 6th block been drawn up without the corrections made in the 5th, which simply repeat the mistakes of past designs? Is this really the way the institute will save money, at the expense of national interests?

And one more thing, which accords no honor to either the institute or the Ministry of Energy. The builders and fitters want to get six, rather than three batches of designs. This is explainable if we keep in mind the great number of sub-executors, who are working with them. We are not even speaking about how the institute has dragged its feet in complying with only part of the requirement, thus is it paradoxical that they come to the construction site rolled up in ribbons.

The changes in the 5th power block are already a part of everyday life. But no one knows their value better than the builders, fitters, and leaders. That it is indeed high can be seen in the unanimous desire of everyone: "The 6th power block will not be a repetition of mistakes made on the 5th block."

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YUGOSLAVIA

DOMESTIC PARTICIPATION IN NUCLEAR PLANT DEVELOPMENT

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 2-4 Nov 85 p 1

[Article by Radmila Jovanvic]

[Text] Our industry has everything for manufacturing equipment for nuclear power plants, as in fact the Canadians, large manufacturers themselves, have acknowledged to us. It is just a question of better organization, of dividing up the work within industry, for most of the capital that goes into building these power plants to remain in the country. By nuclearizing production domestic industry would ensure itself a place on the world market for high-quality products as well, said Naim Afgan, independent scientific adviser in the "Boris Kidric" Institute for Nuclear Science in Vinca.

An international invitation for bids was recently put out for construction of four nuclear electric power plants in Yugoslavia, all of which will be started, and some in fact completed, before the year 2000. So far we know that Croatia, Slovenia, Serbia, Macedonia and Vojvodina will share in their construction. The first of those four nuclear power plants will be built at Prevlaka, a place that is located between Zagreb and Ivanic Grad. Its construction should begin in 1.5 years and the estimated cost will be about \$2 billion.

Lagging Behind Because of Procrastination

The strategy for Yugoslavia's long-term development of the fuel and power industry provides that the country's future will be based above all on domestic sources of energy--the remaining hydropotential and lignite, whose reserves prospected to date are estimated to last at least 50 years. Since it took into account the multipurpose role of coal as a source of energy and as a raw material, it is understandable that even now some new source of energy needs to be gradually introduced in order to satisfy the needs of consumers of the fuel. That is why provision has been made to begin construction of nuclear power plants in the coming medium-term planning period. By the year 2000 they are supposed to have a share of 12 percent, and in the year 2010 more than 14 percent of total domestic electric power production. That will be considerably less than the most recent estimates on the share of nuclear power plants in, say, the United States, West Germany and other countries which have no reason to complain about a lack of other sources of energy or of low-calorie coal, which is Yugoslavia's case.

"It is wrong to say that we should first use up all domestic sources, and only then undertake nuclear technology. Then we would lag behind still more in engineering and technology. The construction of nuclear power plants cannot be postponed indefinitely. In countries which possess considerably larger quantities of high-calorie coal, they estimated that it will be able to cover at the most 20 percent of the growth of electric power consumption in coming years. Other sources of energy, such as solar and geothermal energy, have limited possibilities for application, so that we cannot speak about their very extensive commercial use. That is why the advanced countries are still counting on construction of nuclear power plants with a light-water reactor. They are in fact already working on use of a fast-breeder reactor, but power plants of that type will be available for commercial construction only at the end of the century and will be built only by those who have the so-called light-water nuclear power plants. The most essential thing, now that we already know that we have to undertake a nuclear program, is to do this in the manner that is the most efficient and financial advantageous for us," Naim Afgan believes.

A Visa to the World

It would be best to purchase a license to that portion of the nuclear technologies (including the fuel cycle field) that is commercially available in the world. The decision to build several nuclear power plants makes it possible for Yugoslavia to stipulate in purchasing licenses and equipment for them that its own industry be involved in the program for production of nuclear power plants by the future foreign partner in that business. It should also stipulate that the foreign fuel supplier would provide a reserve fuel charge to load the nuclear power plants. Thus no one would be able to blackmail us in case of a dispute with that partner by threatening stoppage of fuel delivery. After all, one fuel charge of the reactor makes it possible for the power plant to operate 4.5 years--which means 9 years with the spare charge--which is sufficient for finding a new partner or an appropriate domestic solution.

Industry ought to look upon the decision to build a series of nuclear power plants in the country as a great opportunity to employ and improve existing capacities and to develop new capacities. It is felt in the world at large that anyone who meets the high quality standards for participation in construction of nuclear power plants is capable of participating in the production of the highest-quality equipment, even equipment for spacecraft. This is based on pure economics, and it is manifested even in the tiniest details. For instance, the steam separators which "Energoinvest" is delivering for nuclear power plants in the USSR cost about fivefold more than those for thermal electric power plants, although the difference is only in quality and in no other respect.

The question of whether the domestic industry will take advantage of the opportunity offered by Yugoslavia's new step into nuclear power engineering will depend above all on industry itself, that is, on cutting across republic-provincial boundaries and on overcoming the fragmented nature of the industry and the habitual practice of everyone doing everything. When potential sellers of technology and of the licenses to it, like the Canadians, acknowledge that our

industry has sufficient capability for a high share (at the outset) in production of equipment for nuclear power plants, then it truly is up to domestic forces in the country to organize themselves and divide up the work in such a way as to minimize the foreign share and the outflow of hard-earned foreign exchange. It is estimated that under ideal conditions Yugoslavia would be able to achieve a share of 70 percent domestic content in the fourth nuclear power plant in that program.

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CSO: 5100/3008

YUGOSLAVIA

BRIEFS

SLOVENIAN OPPOSITION TO NPP--The School of Sociology, Political Science and Journalism of "Edvard Kardelj" University in Ljubljana has compiled a report on the attitudes of Slovenes concerning development of the electric power system as part of a larger public opinion research project. Since Slovenia is the first republic to have undertaken the "nuclear program" with the "Krsko" Nuclear Power Plant, the survey specifically includes opinions on nuclear power plants, and that with respect to the extent to which individuals are informed about the technological, ecological and economic characteristics of nuclear power plants and the arguments against possible construction of new nuclear power plants. Most of those polled (59 percent) have a favorable opinion of the operation of NE [Nuclear Power Plant (NPP)] Krsko, while 19.8 percent of the respondents expressed a negative attitude, and the rest were undecided. Even in the face of that a possible program for construction of new nuclear power plants has not been receiving the support of the majority, although the views of Slovenes are highly varied. [Text] [Belgrade PRIVREDNI PREGLED in Serbo-Croatian 29 Oct 85 p 7] 7045/6539

CSO: S100/3008

BRAZIL

SARNEY GUARANTEES NUCLEAR PROGRAM FOR PEACEFUL PURPOSES

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 8 Sep 85 p 10

[Text] Brasilia--"We should not venture into a nuclear policy that is not completely safe," declared President Jose Sarney at the ceremony of installation of the Nuclear Program Evaluation Commission in Brasilia yesterday, after reiterating "the absolute commitment of our country to the peaceful use of nuclear energy."

"We want nuclear energy so that it may be applied in health, agriculture and industry in the light of the present economic and social juncture and the imperative need to maintain the pace of our development," said Sarney. "The national community must engage in that debate so that we can arrive at an appropriate use of nuclear energy through democratic forms of decision-making," added Sarney.

Participating in the ceremony were Ministers Aureliano Chaves of Mines and Energy and Renato Archer of Science and Technology, in addition to the heads of the Civilian Household, Jose Hugo Castelo Branco, the Military Household, General Bayma Denys, and of the National Intelligence Service (SNI), General Ivan de Sousa Mendes. The acting chairman of the evaluation commission, physicist Oscar Sala of the University of Sao Paulo (USP), declared that the revision of the Brazilian nuclear program will be studied but he did not want to advance any details since the discussions will now begin with the scientific community and visits to the plants.

"Despite its high cost, no developing country can dispense with nuclear energy even though that may entail sacrifices," observed Oscar Sala. Today nuclear energy is one of the most important key technologies, with broad applications in the industrial area for the treatment of metals and alloys, in agriculture for the correction and research of soils, and in health, with radioisotopes, he observed. Sala did not want to make any predictions about the main points that will be contained in the commission's final report.

Archer recalled the recent electric energy blackouts to stress the need to intensify the research and use of nuclear energy. It is a great step for the revision of the whole Brazilian nuclear program and that is the opinion of the government in creating the commission, emphasized the minister. Archer pointed out that the Brazilian scientific community that had emigrated abroad during the authoritarian regime is beginning to return home and should collaborate with the commission.

In the first of the eight official meetings they will hold, the members of the high-level commission to evaluate the Brazilian nuclear program asked the government for copies of all the nuclear agreements signed by Brazil with various countries, among them the one signed with Germany on 27 June 1975. It was the first action of the commission headed yesterday by physicist Oscar Sala in the absence of its chairman, Jose Israel Vargas, who is a professor and aide to Minister Aureliano Chaves.

Members

In addition to Vargas and Sala, the Brazilian Nuclear Program Evaluation Commission will be comprised of: Jose Mindlin, president of Metal Leva S. A.; Gaspar Erich Stemmer, professor and chief of the Mechanics Department of the Federal University of Santa Catarina; Alberto Pereira de Castro, technical consultant; Ramayama Gazzinelli, honorary professor of physics of the Federal University of Minas Gerais; Marcelo Damy Santos, professor of the Pontifical Catholic University of Sao Paulo; Fernando Zladislawski, honorary professor of physics of the Federal University of Rio Grande do Sul; Eduardo Penna Franca, professor of the Institute of Biophysics of the Federal University of Rio de Janeiro; Jose Pelucio Ferreira, director of Agroceres; Paulo Francini, president of Coldez; and Luis Renato Caldas, professor of physics of the Federal University of Rio de Janeiro.

Commitment to Social Peace

Speech by President Jose Sarney at the ceremony of installation of the Nuclear Program Evaluation Commission:

"I hereby install the commission charged with evaluating the Brazilian nuclear program convened in order to present proposals and suggestions for a nuclear policy within a period of 180 days.

"Brazilians:

"Brazil wants to be committed definitely to development, social peace and progress. In installing the members of this commission comprised of distinguished representatives of the various branches of knowledge in our society. I reaffirm the absolute commitment of our country to the peaceful use of nuclear energy.

We want nuclear energy so that it may be applied in health, agriculture and industry in the light of the present economic and social juncture and the imperative need to maintain the pace of our development. And it behooves the national community as a whole to engage in that debate so that, through democratic decision-making methods we may be able to elect the appropriate use of this energy.

This commission will also have the important task of identifying gaps and possible omissions in regard to the normative and operative role of the government in this area of its exclusive purview, as well as the participation of the universities, research centers and contracting companies in the generation and absorption of scientific and technological knowledge.

Together with the Federal Republic of Germany and the International Atomic Energy Agency, Brazil is a consigner of the Safeguards Agreement, a guarantee of the exclusively peaceful nature of the activities embraced in the framework of the agreement with the Federal Republic of Germany, as well as of the Tlateloco Treaty, and cannot evade its commitment to peace and the--I reiterate--peaceful use of nuclear energy.

I point out also that we should not venture into a nuclear policy that is not completely safe. The essential concern for the safety of installations and equipment must be matched by a concern for the population and the environment, keeping them free from any risk and accident.

Ladies and Gentlemen,

I wish the members of the commission that has now been installed may successfully fulfill the tasks that are assigned to them. In conclusion, I recall Bertrand Russell, who warned not at all optimistically that "it is possible that we are living in the last Age of Man; and if that is so, it will be to science that man owes his extinction." I affirm the prevalence of life and of science as the source of wealth, salvation and welfare among men.

Thank you very much.

8711/9423
CSO: 5100/2006

BRAZIL

PIRES DEFENDS ABILITY TO BUILD BOMB AS DETERRENT

Brasilia CORREIO BRAZILIENSE in Portuguese 1 Sep 85 p 3

[Article by Tarcisio Holanda]

[Text] One part of the lecture that Minister of the Army Gen Leonidas Pires Goncalves gave for the group of members of congress that traveled to Rio at his invitation--and at which the president of the PMDB [Brazilian Democratic Movement Party], Ulysses Guimaraes, was present--only now has been revealed. The minister devoted part of his presentation to speak on the problems of external security facing Brazil.

Pleased to report that Brazil does not have problems with its neighbors, Leonidas stressed that we should be able to go 100 years without any more serious threat, but we cannot leave our Armed Forces unprepared for even one minute. The minister referred to the progress some countries have made over Brazil in terms of mastering the complete cycle of the atom.

Argentina, for example, has maintained a permanent nuclear policy for the last 25 years, in spite of the constant institutional shake-ups that the country has suffered during that time. As the minister pointed out, the Argentines will be capable of trying out their atomic bomb at any time, thanks to the technological progress resulting from their nuclear policy.

If that happens, the Minister of the Army appealed to the political leadership to support a national effort of resource mobilization so that Brazil may also be able to build its atomic bomb, for the sole purpose of intimidating any potential aggressor. Brazil, according to the minister, does not fear a military aggression, but we cannot fall behind in terms of bargaining power if a neighbor like Argentina constructs an atomic bomb as expected.

Brazil can breathe with relief with a civilian democratic government in Argentina--a government which has maintained cordial relations with ours. However, the Brazilian Government has information that the chief of the former Argentine military junta, Gen Leopoldo Galtieri, had plans to retake by force not only the Malvinas Islands--or Falkland Islands--but also the Beagle Channel, a point of contention with Chile, and subsequently the territory of Missoes, in Rio Grande do Sul, over which Argentina has old territorial claims.

Brazilian specialists are convinced that through the military power that the military junta has succeeded in mobilizing, the Armed Forces of Argentina could penetrate up to the B line of Brazilian defense, some 180 kilometers from the border, an area that has as a demarcation point the city of Barracao in Parana.

The Argentine army is capable of mobilizing, within a relatively short time, 800,000 reservists. Brazil can mobilize, in 30 days, more than 2 million men. The Argentines have developed their own armaments industry, but in that sector Brazil is far ahead.

They are developing a fighter plane with Israel--the Dagger. However, Brazil manufactures several types and is capable of producing more than 100 of the military version of the Bandeirante per month--besides the Tucano and the missiles that Avibras is manufacturing, including the Piranha, whose effectiveness was proven in the Malvinas War, and which is today one of the Brazilian weapons most sought after by our traditional clients.

If Galtieri had been capable of putting his plans into practice, the Argentines would have been contained in Barracao--and they would not have been able to advance in the direction of Sao Paulo. With the largest industrial capacity in Latin America at its disposal, principally in Sao Paulo, and with a population more than four times as large, Brazil would have obvious advantages in a conflict of that type.

The Brazilian Government hopes that our relations with Argentina will enter into a phase of progressive improvement through increased exchange in all fields of activities. There are no major problems with our neighbors, but some points deserve special attention on the part of the military authorities.

Along British Guiana there is a strip of land known as Essequibo, which is claimed by Venezuela. Brazil lost more than 100 miles of its territory to British Guiana--precisely a part of Essequibo--in the settlement arbitrated by the late King Victor Emmanuel of Italy. However, in order to invade Guyana, Venezuela has to pass through a Polish corridor lying in Brazilian territory. And that forces Brazil to maintain troops on alert in the area.

Besides that, our greatest problem is the 300,000 Brazilians in Bolivia, in the fertile Beni River valley. This could come to be an area of conflict at any moment. Outside of that, we do not have any problems with our neighbors.

13026/13012
CSO: 5100/2003

BRAZIL

EMFA HEAD DENIES INTEREST IN BUILDING ATOMIC BOMB

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 8 Sep 85 p 10

[Text] Brasilia--"Brazil is not facing any foreign threat. The country is interested in broadening its technological knowledge in all areas of modern science, including the nuclear area. That does not mean, however, that it is going to produce the atomic bomb."

That is the opinion of the minister chief of the Armed Forces General Staff (EMFA), Admiral Jose Maria do Amaral, on being questioned about Brazil's current degree of interest and technology with reference to the construction of the atomic bomb. Enumerating the applications of nuclear energy, he pointed out that its use for nonpeaceful purposes depends on the capacity of each nation to acquire the technology "and even so, if it becomes necessary," he emphasized. In any case, he declared, that is a government decision and mainly a political decision.

Like Army Minister General Leonidas Pires Goncalves, the minister-chief of the EMFA supports Brazil's acquisition of nuclear energy know-how but also that of informatics technology. "We need to remain as close as possible to the technological frontier already achieved by the other nations," Admiral Amaral declared.

The reports pertaining to General Leonidas Pires' support for construction of the atomic bomb by Brazil, voiced in a talk to the congressmen, received a positive reaction in the military area, especially the army, even though there is the express intention not to use it.

According to the military reasoning outlined yesterday, although Argentina has already surpassed the historic limits of the "possibility of war No 1," according to the old Brazilian military manuals, it cannot be ignored that that country may already be some years ahead of Brazil in the area of nuclear energy.

In the meantime, despite the first absolutely negative results, the provisional deactivation of the Angra dos Reis project did not receive favorable reaction. The need for Brazil to achieve nuclear autonomy, by the end of the decade if possible, is the watchword among the three armed forces.

Parallel with the reports of the progress in that field already achieved by the aeronautics branch through the Aerospace Technical Center (CTA) of Sao Jose dos Campos, admitted by its director, Brigadier Hugo Piva, the navy and the army are also conducting studies with a view to mastering leading edge technology in the nuclear sector: the navy, through a Research Institute, and the army, through the Technological Center with headquarters in Rio. All, however, have a single concern: to train specialized personnel abroad. As the minister-chief of the EMFA pointed out, with an argument reiterated yesterday by all the military men consulted on the subject, it all comes down to the same premise that guided Brazil in not signing the Nuclear Nonproliferation Treaty: "We do not believe in an atomic war; we do not want to contribute to the development of atomic weapons, but we cannot restrict ourselves in advance and assume a commitment not to try to obtain nuclear technology even if it is to learn the techniques of building a bomb; which, in the final analysis, is definitely a political decision."

8711/9423
CSO: 5100/2006

BRAZIL

NEW LAW SUBJECTS FRG NUCLEAR ACCORD TO LEGISLATIVE SCRUTINY

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 8 Sept 85 p 10

[Article by Jose Goldemberg, president of the Sao Paulo Electric Power Corporation (CESP)]

[Text] The coverage of the activities of the national congress by the country's main press organs is certainly odd: one time it is the scandalous incidents in which deputies are caught redhanded voting in their colleagues' place; another time, it is the complete vacancy of the plenum (or even of Brasilia) with no effect on their substantial remuneration.

Despite that, however, the national congress has shown that it has the capacity to work when it wants to: either removing part of the "authoritarian rubble" or voting for election legislation. In addition to that, there is the quiet work of the committees, which are frequently not given due credit.

It is probably for this reason that the approval of a law on the initiative of the legislature itself that amends the Brazilian-German Nuclear Agreement of 1975 passed completely unnoticed. This is the Framework Agreement approved by the national congress that permitted the establishment of the commercial agreements between the Brazilian Nuclear Corporation (NUCLEBRAS) and KWU (Siemens) and other German companies through which the nuclear program was implemented; that is, the construction of the Angra dos Reis nuclear plants II and III in addition to the heavy components factory of the Nuclebras Heavy Equipment Corporation (NUCLEP) and other activities in the area of mining and the nuclear fuel cycle.

The new law (Legislative Decree No 3) approved by the national congress and promulgated on 9 April 1985 "provides that all agreements protocolled, contracts or acts of any nature the object of which is to implement or execute" the provisions of the Cooperation Agreement in the Field of the Peaceful Uses of Nuclear Energy signed between the Federative Republic of Brazil and the Federal Republic of Germany in Bonn on 27 June 1975 (and approved by Legislative Decree 20 October 1975) "be submitted to the approval of congress."

This law constitutes one of the most important laws already approved by congress because it submits to the consideration of the legislature activities that fell within the exclusive purview of the state enterprise charged with a

given program, in the case of the nuclear program. As is well known, NUCLEBRAS took advantage of the secrecy that surrounded its activities to commit substantial public funds to ill-conceived programs that did not have any actual support, not even in the economic area of the Figueiredo administration. Little by little, these commitments were disclosed, thanks especially to the activity of the press but no one knows to this day how much still remains to be uncovered.

The law that obliges the executive to submit to congress contracts and other acts stemming from the nuclear agreement means nothing more than the application of common sense in matters of public administration.

In approving the nuclear agreement in 1975, congress gave the executive a blank check and the experience of the last 10 years showed that in this area particularly, the check was misused. As is known, the program executed by NUCLEBRAS has already resulted in expenditures of approximately \$4 billion (most of it in foreign debt to German banks). And NUCLEBRAS has very little to show despite these expenditures, as is very frankly admitted, moreover, by its current president, Licinio Seabra.

There is nothing more natural, therefore, than that the national congress itself should oblige the government to render it an accounting, not in the book-keeping sense, which is given to the General Accounting Tribunal, but in the more general sense of safeguarding the public interest.

Despite the fact that the new law has been approved, it seems that it is being contested by Senators Murilo Badaro and Roberto Campos, who want it to be revised, arguing that it establishes undue intrusion in the executive by the legislature, giving rise to conflicts between the two branches.

These arguments were probably used when the law was discussed and are now invalid since it was presumably approved with the favorable opinion of the Constitution and Justice Committee. The argument of unconstitutionality, therefore, does not appear to have any validity.

Despite that, the executive--as far as is known--has not yet fulfilled the provisions of the law by submitting to congress the contracts and other acts that permitted the disastrous nuclear program to be put into operation.

It is important that that be done immediately so that it may be possible to determine clearly what was done and in what way. It is not merely a matter of learning how several billion dollars were squandered. It is a matter of learning whether the national sovereignty and interests were harmed, inasmuch as there are many who believe that that in fact occurred.

8711/9423
CSO: S100/2006

BRAZIL

EXCLUSION OF SBPC, OTHERS FROM EVALUATION COMMISSION SCORED

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 10 Oct 85 p 3

[Text] President Jose Sarney has set up a study commission almost every day he has been in office. These commissions have a lot of members and have been assigned to study all sorts of topics--from the future Constitution to the special privileges enjoyed by government employees serving overseas. This proliferation of commissions detracts from the importance of certain issues; after all, the propensity of officials to appoint study commissions whenever they want to postpone making difficult or controversial decisions is well known.

That is what happened with the Brazilian Nuclear Power Program. Some days ago President Sarney set up a Commission to Evaluate the Nuclear Power Program. However, the event generated little reaction. The lukewarm reception is probably not due to the plethora of committees without decision-making power that already exist in the Sarney administration.

Actually, there are more concrete reasons why the commission runs the risk of not meeting the optimistic expectations. In the first place, the 180 days allotted for completing the study is too long; secondly, the commission's mandate to define the role of nuclear power within the overall Brazilian energy picture for the future is too broad. As Prof Jose Israel Vargas, nuclear energy advisor to the Ministry of Mines and Energy and chairman of the commission so well put it, that is a goal which lends itself to all sorts of academic exercises.

The Administration expects the commission to peer into the future. Well, that is always risky. In the case of energy, the most carefully-prepared forecasts for world energy consumption disagree significantly with each other and one cannot expect--nor take very seriously--any consensus of results as regards the Brazilian situation. We have ample evidence of the dramatic errors made in energy planning during the past 15 years. One of these mistakes was precisely that of investing billions of dollars in a nuclear power program that has not produced a single result, while major Brazilian cities face blackouts owing to a lack of transmission lines that would have cost a tenth of what the nuclear adventure has cost.

Besides facing the hazards of predicting the future, the commission suffers from the "impartiality" syndrome. One of the criteria for selecting the members of the evaluation commission was an impartial attitude toward the

nuclear program. Well, that standard as applied by Prof Vargas reveals, by itself, a gross bias in favor of the program and a poorly disguised attempt to justify this. It is because of that ill-conceived criterion that we find a representative of the Association of NUCLEBRAS Employees grafted onto a commission made up of businessmen, scientists, and representatives of government ministries! That standard is also the reason why the Brazilian Society for the Advancement of Science (SBPC) was neither consulted about the commission nor invited to be part of it. This means that the SBPC has been implicitly accused of being "biased" as regards the nuclear program and that scientists of the highest caliber and greatest integrity have been similarly labeled, and left on the sidelines.

The fact that since 1975 the SBPC has expressed reservations about the nuclear power program is not a valid reason for excluding it from the commission. If the standard of "impartiality" were applicable to all the members of the commission, only laymen could serve on it. Prof Vargas would have to be excluded, because he was a member of the Geisel Administration that launched the nuclear power program of which he has always been a defender.

Any commission assigned to evaluate the nuclear power program would have great difficulty in successfully completing a task that certainly needs to be performed. The decision to create such a commission is laudable. The Sarney administration, however, has erred by keeping it from reflecting a broader spectrum of opinion.

12830/12899
CSO: 5100/2010

BRAZIL

IPEN TO STAGE PARTIAL STRIKES FOR WAGE INCREASE

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 19 Oct 85 p 11

Text "We are not the bosses nor even the chiefs, but we are always open for dialogue and try to keep the grievances which come to our attention on the right track," asserted Santiago Valverde, administrative director of IPEN [Institute for Nuclear and Energy Research], yesterday, explaining that the organization is a self-governing entity of the Secretariat of Industry, Commerce and Technology but is associated--technically and administratively--with the National Commission for Nuclear Energy in addition to having direct relations with the University of Sao Paulo (USP) through post-graduate courses.

In the proposal sent to CISE [Interministerial Council for the Wages of State Employees], IPEN's directorate requests an increase of 8.16 percent over the August wages, as restitution. Thus, with the increase of 68.3 percent conceded in September, the make-up would come to little more than 14 percent. The other claims are: 2 percent of production, retroactive to March of this year, 30 percent in advance beginning in December and 50 percent of readjustment in terms of bonuses.

Santiago Valverde recognizes that the wages are out of tune and are causing the loss of many qualified professionals who are transferring to industry. There are more than 200 post-graduate technicians "who are seeking proper and peaceful technology for the use of nuclear energy, furnishing materiel for society, principally in the medical area." IPEN also provides radioprotective services to industries which work with radioactive materiel, in addition to assisting in the engineering sector and in the industries themselves.

At an assembly held yesterday the IPEN employees rejected the possibility of striking over their wage demands in the next few days; however, they approved the possibility of two partial work stoppages in the coming week. The first will be on Tuesday, at which time meetings will be held at all units. On Thursday, the employees will parade in front of University City where the institute's facilities are located.

About 500 of the organization's 1,500 employees were present at the assembly, held during the lunch period, including foremen, technicians and helpers. They resolved to lower their make-up demands from 20 percent to 15 percent and abide by the indexes proposed by the directorate, now being studied by CISE in Brasilia.

8568/12851
CSO: 5100/2013

BRAZIL

CONTINGENCY PLAN FOR NUCLEAR ACCIDENT REPORTED

PY081240 Brasilia Domestic Service in Portuguese 2100 GMT 7 Nov 85

[Text] The people of Angra dos Reis will be informed of the risks they might face in the case of an accident at the Angra 1 nuclear plant. To this end, the Interior Ministry Civil Defense Board will launch a campaign in January.

Reporter Carmencita Costa reports from the Interior Ministry:

[Begin relay] The Angra 1 plant, which is part of the Admiral Alvaro Alberto nuclear plant, is the only plant that is already in operation. Although this and other similar nuclear plants are considered to be safe, there can always be a leakage of radioactive gases owing to accidents.

Aware of this, the Interior Ministry Civil Defense Board has officially designed a contingency plan to evacuate those people living within a radius of 15 km from the Angra 1 plant.

(Chico Alberto Gobat), a representative of SUDEC on the commission charged with coordinating the nuclear program, has reported that radioactive gases cannot be spotted without special instruments. As soon as a problem that may involve gas leak is detected, the people will have to be evacuated. First, the respective warning will be given through sirens, and then the following procedure will be followed:

Those people living within a radius of 5 km from the plant will have to be evacuated within 24 hours; those living within a radius of 10 km must be evacuated in 8 days; and the people living in the city of Angra dos Reis, 15 km from the nuclear plant, should be evacuated within 15 days. This will be done if there are risks of radioactive contamination. The people will be taken to the Rio de Janeiro Rural University, where they will receive food, medical attention, and lodging until they are able to return home.

To implement this plan, the Civil Defense Board will have to mobilize more than 500 people, helicopters, ships, and buses.

There is, however, no reason to worry: The Civil Defense Board is just seeking to prepare and to provide guidance to the people on the risks of a nuclear accident, which is a very remote possibility.

/6091
CSO: 5100/2017

BRAZIL

1.3-TON CONTRABAND URANIUM SHIPMENT SEIZED

PY121619 Sao Paulo FOLHA DE SAO PAULO in Portuguese 9 Nov 85 p 21

[Text] Brasilia -- In a rural area in Goias the federal police have seized the first contraband uranium shipment in Brazilian history: 1.3 tons of autunite with a high concentration of uranium dioxide. Autunite is used for the production of the so-called "yellow cake," which is the raw material for producing radioactive fuel for nuclear powerplants. The material, believed to be worth about 50 billion cruzeiros, was seized near the city of Divinopolis as it was being taken to the Alto Paraiso airport, 200 km north of Brasilia, for an unknown destination.

"Operation Nuclear" was undertaken jointly by the Goias and Brasilia superintendencies, but the investigation is being conducted by Brasilia delegate Carlos Bernardes Mendes, who must conclude the investigation by 7 December. The federal police have reported that there are indications that the mineral was to be sent abroad, which could result in a serious diplomatic incident. Uranium is considered a strategic mineral that is essential for national security. Only the federal government can engage in uranium prospecting, production, and commercialization.

According to the police, four people are known to be involved in the case. They are Diomar Dias da Cruz, a gold miner; Jeronimo Rodrigues Pareira, the owner of a mining firm in Anapolis, Goias; Benedito Possidonio de Oliveira, the contraband middleman and a retired supervisor of the Goias Finance Secretariat; and Joao Teixeira de Faria, who provided financial support for the operation. Teixeira de Faria, a quack, is known as "Joao de Deus" in the city of Abadiania. Those who are found to be involved may be prosecuted on charges of violating Article 24 of Law 6453, dated 17 October 1977, and they may be sentenced to 2 to 6 years imprisonment.

The autunite mine was located near the city of Campos Belos, 350 km north of Brasilia, in Goias. The National Nuclear Energy Commission (CNEN), which analyzed the seized mineral, has issued a report saying that it is highly radioactive. The mineral is being stored in jute bags in an F-1000-A pick-up truck at the Brasilia Federal Police Headquarters. The pick-up's odometer reads only 1,850 km. The name of the owner of the vehicle, which has no license plates, has not been released. The mineral will be put under the jurisdiction of the CNEN, which will investigate the matter.

/6091
CSO: 5100/2018

BRAZIL

BRIEFS

EMPLOYEES' STRIKES--The 750 NUCLEI [Nuclebras Isotope Enrichment, Inc.] employees have ended their strike. Meanwhile, 830 NUCLEP [Nuclebras Heavy Equipment, Inc.] employees have gone on strike. The two firms are located in Rio de Janeiro. [Text] [Sao Paulo Radio Bandeirantes Network in Portuguese 0900 GMT 12 Nov 85 PY]

ENERGY PROGRAM COSTS--Minister of Mines and Energy Aureliano Chaves said yesterday that the absence of a specific timetable for disbursing funds to pay for projects undertaken by the electric power sector has made the financial costs as high as the generating cost of every kilowatt-hour of constructed capacity. "Our procedures must be changed," the minister said, "to harmonize construction schedules with funds disbursement dates." The rising financial costs to which the minister refers are caused by frequent delays in transferring funds from the federal government to ELETROBRAS (via the Central Bank) that force ELETROBRAS to postpone paying contractors and suppliers. By the time the outstanding bills are liquidated, the amounts due have been increased by late charges and monetary correction. The best example of this is Itaipu, where construction will have cost US\$ 15 billion and equipment US\$ 10 billion; financial costs are estimated at US\$ 5 billion. Another program saddled with high financial costs is the nuclear power program, also based entirely on foreign funds because NUCLEBRAS has no domestic source of revenue with which to finance power plant construction. At present, only Angra II will be completed. Of the US\$ 4 billion already invested in the nuclear power program, approximately US\$ 1.2 billion represents payment of interest and other fees. ELETROBRAS, for its part, has incurred a foreign debt of US\$ 12 billion, while the domestic and foreign debt of the entire electric power sector totals about US\$ 20 billion. ELETROBRAS and the electric power sector as a whole must obtain 70 percent of investment funds through borrowing. [Text] [Sao Paulo O ESTADO DE SAO PAULO in Portuguese 22 Oct 85 p 41] 12830/12899

NAZARE ON PRC ACCORD--Brasilia--Rex Nazare Alves, president of the National Commission for Nuclear Energy (CNEN), said yesterday that he is not confirming whether or not China is allegedly furnishing technology for the manufacture of nuclear weapons to certain countries, including Brazil. "There is a cooperative agreement between our two countries," Rex Nazare said, "but, until now, there have been no practical results." He added that, in addition to never having been implemented, the Brazil-China nuclear accord is subject to the international safeguards of the International Atomic Energy Agency. [Text] [Sao Paulo O ESTADO DE SAO PAULO in Portuguese 23 Oct 85 p 4] 8568/12851

ITU MONAZITE WASTE DEPOSIT--Brasilia--The president of the Brazilian Nuclear Corporation (NUCLEBRAS) said yesterday that Torta-II in Itu, the depository where monazitic sand wastes are being stored, is safe and does not represent any risk of contamination for the population. Seabra was at the Ministry of Mines and Energy yesterday where he participated in the second meeting of all the companies that comprise the Ministry of Mines and Energy system, presided over by Minister Aureliano Chaves. He stated that since 1982, the National Nuclear Energy Commission has conducted examinations in the area of the depository, about 15 kilometers from the city, to test the radioactivity and contamination levels. Seabra revealed that everything is under control, and even the sources of water that supply the municipality, located about 600 meters from the depository, are free from contamination. The president of the company reported also that the deposits made in Itu (Torta-II) by the Nuclebras Monazite and Associated Metals (NUCLEMON), a NUCLEBRAS subsidiary, are sealed. Utilized to make thorium salts, these deposits are economically exploitable but their market is very small, which makes it necessary to store them in depositories. Now that same substance is being deposited in closed depositories in Pocos de Caldas, where the factory to produce yellow-cake, a substance resulting from the first beneficiation of uranium oxide, is operating. [Text] [Sao Paulo O ESTADO DE SAO PAULO in Portuguese 27 Sep 85 p 42] 8711/9423

CSO: 5100/2006

JPRS-TND-85-021
13 December 1985

COLOMBIA

BRIEFS

NUCLEAR COOPERATION PACT WITH CANADA--Bogota, 13 Nov (AFP)--A Colombian-Canadian committee today began negotiations in Bogota for a cooperation agreement on the peaceful use of nuclear energy. Colombia and Canada share the principle of not developing or acquiring atomic weapons or any other nuclear explosive devices, as contained in the agreements signed with the International Atomic Energy Agency. A group of Canadian experts, headed by Mark Moher, director of nuclear affairs of the External Relations Ministry, and Larissa Blavatskam, arrived in Bogota to negotiate the agreement. The Colombian delegation is headed by the director of the State's Institute of Nuclear Affairs, Ernesto Villarreal. [Text] [Paris AFP in Spanish 0712 GMT 14 Nov 85] /8309

CSO: 5100/2019

PARAGUAY

ATOMIC COMMISSION GETS AID FOR STUDIES PROJECTS

PY250227 Asuncion ULTIMA HORA in Spanish 24 Oct 85 p 18

[Text] President of the National Atomic Energy Commission [CEA] Jose Danilo Pecci told our newspaper that five technical assistance projects to our country, costing a total \$900,000, were approved during the 39th general meeting of the IAEA General Council, which took place recently in Vienna, Austria.

These projects, which correspond to the program of peaceful use of nuclear energy, are the following: "Nondestructive tests and the use of radioisotopes," which will be assigned to the Physics and Mathematical Sciences Department of the National University of Asuncion [UNA] and for which \$63,800 will be allotted; "Nuclear Medicine," which will be assigned to the Health Sciences Investigation Institute and receive \$89,200; "Natural Sciences," which will be assigned to the Sciences and Technology General Directorate of the CNEA and receive \$69,200; "Radiology Protection and Medical Safety," which will be assigned to the Nuclear Biomedicine General Directorate of the CNEA and receive \$98,00 [as printed]; and "Nuclear Science Accelerator Laboratory," which will be assigned to the Sciences and Technology General Directorate of the CNEA and get \$600,000.

It was also reported that besides these projects, two others still have to be developed, and they will demand a total investment of \$109,966. These two programs are called "Nuclear Sciences" and "Radiochemistry Laboratory," and they will be shared by the CNEA and the Chemistry Department of the UNA.

Jose Danilo Pecci, has also been appointed vice president of the Latin American group during the recent IAEA meeting in Vienna.

/8309
CSO: 5100/2016

PERU

REVIEW OF IPEN ACCOMPLISHMENTS, PROBLEMS

Lima EL COMERCIO in Spanish 20 Oct 85 Sunday edition pp 12-14

[Article by Manuel Jesus Orbegozo]

[Excerpt] While Peru now lags behind in many fields of scientific and technical research in comparison with other countries, still, within the Third World, we are in a strong position in the field of nuclear energy.

Our history in this field is still quite new. It began in the years 1975-1977 when the recently created IPEN [Peruvian Nuclear Energy Institute] drew up a plan for the installation of nuclear reactors to generate our own nuclear power to be used for peaceful purposes.

In this plan, which was to cover the period from 1977 to 1985--up to the present time--it was proposed:

- a. To create a suitable scientific-technological infrastructure
- b. To provide operational facilities;
- c. To establish the possibility of producing uranium; and
- d. To determine the level of involvement of nuclear-generated electricity in our national development.

Nuclear Reactor

In actuality, all these goals were attained in one way or another, as a result of a great deal of work on both a national and international level. Only through much hard work and determination was Peru able to move ahead to a promising position among the Andean countries in this field, though Chile, to go no further afield, is far ahead of us.

Peru now has a nuclear reactor with a power ranging from 1 to 10 watts, located in a large area at the corner of Avenida Canada and San Borja.

Walking into the building where it is located--the IPEN building--means entering an absolutely unknown and perhaps a fantastic world. The reactor, the experimental labs, computers, and even the language spoken by the scientists, are all highly sophisticated. Everything seems strange to a visitor who has not previously taken a short course in nuclear energy.

And so, while Peru is struggling to cope with its terrible everyday problems, ranging from the pressures of its foreign debt to the anguish created by terrorism and crime, in this corner of the IPEN, going down three floors underground, a quiet group of specialists is hard at work, studying or developing uranium fission, using neutron bombardments, preparing atoms for peace.

Neutron Generator

This neutron generator, which is under the control of Dr Aurelio Arbildo, could be briefly described as follows. The SAMES J-150 particle accelerator is surrounded by thick concrete walls 1.2 meters thick. It takes heavy hydrogen atoms (deuterium), removes their electrons, and sends them through a 150,000-volt difference in potential, making them travel at very high velocities in a vacuum tube. They are then smashed against a metal plate that contains even heavier hydrogen atoms (tritium). This violent encounter results in the production of high-energy neutrons.

Translating a description of the SAMES J-150 into journalistic language is not really a problem of clarity, but rather of the amount of oversimplification needed. This indicates the sophistication of life inside the IPEN.

Use

Dr Aurelio Arbildo explained to us that the neutrons produced in the accelerator have many uses related to improving the living conditions of the Peruvian people, and to attaining a better understanding of our environment. These applications range from history to our food supply. "So," said the scientist, "in our research division, which operates this instrument, we are working on a study of Peruvian ceramics and on two projects related to food and nutrition. On the subject of food, work is being done on the simultaneous determination of nitrogen contents, and thus of proteins; also on the minerals found in fish meal, as well as a study of the macronutrients present in foods plants, soils, and fertilizers, to aid in meeting our nation's nutritional needs."

At the University of La Molina, I saw Mediterranean fruit fly (Mosca del) pupae being bombarded to destroy their reproductive organs in order to put an end to that devastating blight. Here I could see potatoes being irradiated for storage over an extended period of time, to keep them from deteriorating, shriveling up, or sprouting.

The Salary Problem

Unfortunately, not everything at the IPEN is rose-colored. Dr Arbildo himself put his finger on the sore spot, saying: "This institute reflects the enthusiasm of a small group of Peruvians who are working in adverse conditions, trying to make their contribution to the development and modernization of this country, which is restricting its spending on research to unimaginably minimal levels. We are," he said, "a small group of specialists who are still resisting moving to private industry or emigrating to other countries in order to support our families decently. Incredible as it may sound, skilled professionals working for the IPEN are unable to do that."

In fact, based on a rapid survey of the highest-ranking professionals, we found an amazing situation. None of the top-level scientists working at this institute earns anything close to 2 million soles. All of them earn barely 1.5 million. And even though it is very unpleasant to make such comparisons, we do have to say that a minister's secretary or a parliamentary driver (not to mention the salary of the parliamentarian himself) earns more than the most highly trained scientist at the IPEN.

We know that the people working at this institute are paid under a public employees system. They are supposed to receive an income produced by the institute as if it were a private business. But unfortunately, that is simply not the case.

Huarangal in Danger

The head of the IPEN, Gen(Ret)Juan Barreda Delgado, when asked about this matter, said that the salary issue really is a problem, but that he feels it is not a matter of increases, but rather of a salary policy for scientific personnel. "A policy has to be worked out not just to deal with the problem of the IPEN salaries, but with the problem facing all institutions of a scientific nature. Now, as another part of our . . .," he said, "we should mention the money needed to complete the construction and outfitting of the Huarangal Research Center. For administrative reasons, adequate funding was not provided to complete this center. Until these problems are worked out, I don't think I'm mistaken in saying that we are skating on thin ice."

Staff Streamlining

There is no doubt that the salary situation has to be resolved. In recent months it led to serious disputes within the institute, which culminated in a general strike. In reality, the salaries of all the staff are extremely low, quite disproportionate with the sophisticated work they do. Their jobs would even be performed in dangerous conditions, were it not for the precautionary measures that are followed routinely all the time.

The number of personnel has grown along with the institute's needs, for its requirements have also expanded greatly. Whenever there is sufficient demand, the specialists' jobs are extended. For some jobs, two shifts are now required, and perhaps in the near future, three shifts may be needed.

In 1977, when the IPEN began to function, it had 35 nuclear specialists, 11 technicians, and 58 in the administrative area. At present, there are 93 professionals, 72 technicians, and 170 in administrative jobs. We should point out that in recent months some staff reductions have occurred; some skilled specialists, such as engineers or people with doctorates in nuclear fields who had done post-graduate work abroad, and in some cases had even been sent abroad by the IPEN, have left. Moreover, the institute is now carrying out a streamlining and reorganization of its administrative staff.

Rich in Uranium

Gen Barreda Delgado, in the midst of this unstable magma, mindful of the fission that could be created inside the intitute itself by a bombardment of state disinterest, is still an optimistic man.

He feels that the government officials are going to show enough interest to keep the institute going and to avert its collapse. "That would be as destructive as if an atom bomb were dropped on the IPEN. It seems impossible to me," he says.

Impossible for such a major physical and human investment to be halted or wasted. It is estimated that the infrastructure, the sophisticated equipment used there, which was obtained both legally and through some rather unorthodox means, represent a total value of \$70,200,000 (the debt owed to Argentina bearing interest at a rate of 7.5 percent) and \$4 million (our own treasury's investment). Of course, this doesn't even mention the investment in specialists. And that is an extremely significant factor.

Barreda Delgado is enthusiastic about the institute's future and dreams of the sort of nuclear city being built at Huarangal. It will have a reactor with a power of 10 MW, while the present reactor barely has a power of 10 watts. And he goes on dreaming, so to speak, about the development of our uranium mines.

On this subject, he reports that Peru is one of Latin America's most uranium-wealthy countries. In recent years new discoveries have been made, with the prospecting of rich mines such as Macusani and Puno. There, between los Nudos de Chimboya and the Quenanari mine, and the Antajahua and Corani faults, there is a sort of gigantic basin measuring 20 x 30 kilometers, with key points at Huiquiza, Chilacano, and Chapi, where there are proven reserves of 3,400 tons of uranium oxide, probable reserves amounting to 18,000 tons, and possible reserves of 40,000 tons.

To get an idea of what this potential means, we need only consider the following example: Lima, to meet its electricity needs by using nuclear energy alone, would need 6 tons of uranium. Based on the proven recovery system, this could be made to last for up to 75 years. How much electricity could we generate with the 3,400 proven tons in Macusani!

On Thin Ice

As the saying goes, the cards are now on the table. Now it is up to the people who hold the fate of our nation's scientific institutes, including the IPEN, in their hands. In the view of its director, this institute, with its problems that have just been briefly explained here, is now dangerously skating on thin ice.

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BANGLADESH

ATOMIC ENERGY CHAIRMAN RETURNS FROM VISIT ABROAD

Dhaka THE BANGLADESH TIMES in English 8 Oct 85 p 3

Article: "Canada Ready To Consider Supply Of N-Reactor"]

Text Dr. Anwar Hossain, Chairman, Bangladesh Atomic Energy Commission (BAEC), on Sunday said that Canada was "ready to consider" any request for supply and financing a nuclear power reactor to feed the Western Grid of Bangladesh.

Dr. Hossain said that the detailed design of CANDU 300 type power reactor manufactured by Atomic Energy of Canada Limited (AECL) was ready for immediate order.

The BAEC Chairman told BSS that the Canadian Export Development Corporation (EDC) was willing to consider request for financing 85 percent of the total expert cost of the reactor. The rest: 15 percent cost could also be arranged from other Canadian sources, he said.

Dr. Hossain returned home on Thursday after a visit to Japan, Canada, France, United Kingdom and West Germany to find out suitable nuclear reactor for Bangladesh, study its cost economics and explore the sources for financing.

The BAEC Chairman said that CANDU 300 type was the latest version of the CANDU Pressurised Heavy Water Reactor (PHWR) with a capacity to generate 300 megawatt power suitable for the smaller grid in Bangladesh. This small and medium size reactor required relatively modest capital investment simplifying the problems of financing and matching construction programmes to uncertain load growth, he added.

Dr. Hossain said that the cost of the proposed reactor would be around US dollar 600 million including first charge of fuel and heavy water for one year. The annual cost of fuel would be about US dollar 11 million and only one percent of the heavy water would require replacement annually.

The BAEC Chairman said that it would require about six years from today for going into production if the government was serious about it.

Dr. Hossain said that the life of the reactor was 30 years and if it ran at 80 percent capacity it would produce 210 crore kilowatt hour of power annually. At the rate of Taka one per unit its value would be Taka 210 crore, he said.

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CSO: 5150/0011

BRIEFS

BRIEFS

NUCLEAR REACTOR STATUS--SAVAR, Sept 14--The DCMLA and Minister for Information Air Vice-Marshal Sultan Mahmud has said that works are under way to construct soon the first nuclear reactor of the country, reports BSS. He was talking to the scientists and officials while he was visiting the Atomic Energy Research Establishment and Institute of Nuclear Science and Technology Savar today. The DCMLA went round various units of the Institute at Savar and expressed his satisfaction at the progress of work. He assured the scientists of adequate assistance from the Government and said that plans are underway to increase the real-term allocation for research and development in the Third Five-Year Plan. During the visit, among others, Dr. M.A. Mannan, Acting Chairman of the Atomic Energy Commission and Mr. M. Fmdad Hosain, Director General, Atomic Energy Research Establishment accompanied the DCMLA. [Text] [Date] BANGLADESH TIMES in English 15 Sep 85 pp 1, 87 /12851

CSO: 5150/0010

INDIA

U.S. STEPS AGAINST PAKISTAN NUCLEAR DEVELOPMENT UNLIKELY

Bombay THE TIMES OF INDIA in English 8 Oct 85 p 8

[Editorial]

[Text]

In his latest interview to *Newsweek*, Mr. Rajiv Gandhi has made two new pertinent points on the twin subjects of Pakistan's nuclear bomb and the U.S. supply of sophisticated arms to that country. To take the latter point first, since there never has been a warplane that flies in only one direction, the threat to this country inherent in the Pakistani acquisition of the F-16, the most advanced and versatile fighter aircraft in use, is manifest even though both Washington and Islamabad have been trying hard to pretend that the warplane is intended to strengthen Pakistan's security in relation to the Soviet military presence in Afghanistan. This pretence has now been torn to shreds by the Prime Minister's disclosure that the secret U.S. documents captured by the Iranians from the U.S. embassy in Teheran clearly show that the F-16s delivered to Pakistan "are to be used against India, and not in Afghanistan." The published reports of the interview do not go into further details. But it is no secret that Pakistan's real purpose in acquiring the F-16s has been laid bare by none other than the then Pakistani foreign minister, Mr. Agha Shahi, in one of the documents seized and published by the Iranians which relates apparently to his negotiations with American officials. Why a copy of the minutes of these discussions was sent to the U.S. embassy in Teheran is not clear. But the document's message is loud and clear.

Against this backdrop, the recent report in London's *Financial Times* that the Pakistanis are so designing their nuclear bomb as to be able to carry it in the F-16s in their possession becomes both plausible and ominous. It also makes the whole issue of Pakistan's bomb—christened the Islamic Bomb by its originator, the late Mr. Bhutto—much more alive than was the case even some weeks ago. Mr. Jack Anderson, the well-known U.S. investigative journalist, has said repeatedly that he has learnt from U.S. intelligence documents that Pakistan is already in a position to either detonate a nuclear bomb or to start stockpiling such bombs without testing because detonation might mean an end to the U.S. economic aid and military sales to Pakistan at a

time when the doubling of the existing aid package over the next five years is under discussion. Since before his visit to Washington in June, Mr. Rajiv Gandhi has been appealing to the U.S. to use its leverage with Pakistan to dissuade the Zia regime from going nuclear. But these appeals have failed to produce the desired result. On the contrary, the U.S. has asked India to find a regional solution to the problem by either signing the NPT so that Pakistan can sign it too or by agreeing to Pakistan's proposal for mutual inspection of nuclear facilities. The first proposal cuts at the very root of India's nuclear policy; the second is equally flawed because foolproof verification is impossible, as the Prime Minister has so often pointed out. It is in this context that he has now told the U.S. that if it is really concerned about Pakistan's bomb, the least it can do is to withdraw the waiver given to that country from the Symington amendment that prohibits U.S. military or even economic aid to any nation embarked, overtly or covertly, on the nuclear path. Whether Washington would pay this plea greater heed than to his earlier appeals is, however, a different matter. On the face of it, that looks unlikely.

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CSO: 5150/0013

INDIA

GANDHI TELLS POSSIBILITIES OF PAKISTAN NUCLEAR ATTACK

Bombay THE TIMES OF INDIA in English 9 Oct 85 p 1

[Text]

NEW DELHI, October 8.

THE Prime Minister, Mr. Rajiv Gandhi, said today that India had firm evidence that Pakistan's nuclear bomb was financed not solely by that country and warned again at the danger of its inadvertent use.

Mr. Gandhi raised several questions related to Pakistan's nuclear bomb programme and wondered what it would do to the region and to the balance of power theory in the world.

Addressing the National Defence College here, Mr. Gandhi said India had demonstrated to the world that it had the will not to proliferate even after having proved its capability to manufacture the bomb 11 years ago.

Mr. Gandhi reaffirmed that India was not developing a nuclear device but regretted that Pakistan was going ahead in this regard. "Pakistan must desist from making such a weapon," he said.

"What we seek with Pakistan is not detente but entente," the Prime Minister said and pointed out that the only inhibiting factor was to what extent Pakistan was willing to go.

A nuclear, Mr. Gandhi said, was a very dangerous tool in the hands of countries where violent changes occurred and there was no established system of command and control.

POLITICAL STABILITY

The question was whether Pakistan had the technical capability for the requisite command and control and adequately stable political system to prevent the danger of its inadvertent use. In such a situation, he said, the chance of inadvertent use of an atomic weapon increased tremendously.

Mr. Gandhi also wondered whether the Pakistani bomb would be made available to the countries which were co-financing the project.

Mr. Gandhi said it could be debated whether Pakistan was on the verge of making the nuclear bomb, near it or had already developed one. One wondered whether the technology borrowed from other countries for the purpose required to be tested at all.

It could also be debated whether the technology and components were defective and that these were sought to be rectified by smuggling in some devices.

The Prime Minister said security lay in building upon affection, goodwill and neighbourliness which already existed between the people of the two countries.

However, since hostilities did exist, the armed forces should be strong enough to meet surprise attacks or counter unwarranted intrusions.

Since true security could come only through dialogue and interaction, India

BORDER PROBLEM

About China, Mr. Gandhi said India was trying to normalise relations with that country despite the unprovoked attack. He admitted that the border issue was central to resolving the problems between the two countries. "We hope to find a solution but this is not easy or speedy task."

He said the approach of solving problems through peaceful negotiations was valid in dealings with all neighbouring countries. This had also come to the fore in the context of the ethnic crisis in Sri Lanka. He was confident that the Sri Lankan ethnic problem would be solved.

Threat From The Periphery,
by K. C. Khanna, Page 8

was not very enthusiastic about the proposals of a no-war pact and mutual inspection of nuclear facilities. These were not adequate to diffuse tensions. What was needed was people-to-people contact and friendliest of inter-governmental relations.

He said India was committed to resolving issues through friendly negotiations. "We do not want to spread Indian hegemony," Mr. Gandhi asserted. India wanted even small countries like Bhutan and Maldives to have their own personality and character, strengthen their independence and achieve their development as per their own wishes.

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CSO: 5150/0014

INDIA

PAKISTAN'S ACTIONS MAY BRING CHANGE IN NUCLEAR POLICY

Madras THE HINDU in English 5 Oct 85 p 8

[Editorial]

[Text]

IF INDIA'S SECURITY concern in an earlier period centred on Pakistan's acquisition of sophisticated arms from the United States, the focus in recent months has been on its quest for nuclear weapons which, reports have it, has already borne fruit. The Prime Minister, Mr. Rajiv Gandhi, has voiced the nation's fears over this development in his address to the army commanders in New Delhi and also in interviews with foreign newspapers. That Islamabad's nuclear programme was not confined to the energy area has been clear for some years—its building and operating a plant to produce enriched uranium when it did not have the reactors that could use the material and its getting weapons design equipment and explosion mechanisms had made that obvious. And the Western governments which woke up to the clandestine purchases of nuclear weapons related equipment and components in 1978 were clearly unable—or did not try hard enough—to stop the flow. A Pakistani nuclear explosion would, of course, draw a stronger reaction—the American Congress is particularly sensitive on this issue though the Reagan Administration could still continue to look the other way. Under the circumstances, Pakistan could be expected to take the Israeli route that could save it a great deal of embarrassment with its Western friends and help ward off a loss of aid—not resorting to an explosion but assembling and stocking a few nuclear weapons.

Pakistan's nuclear venture aided by Western technology, Arab funding and Chinese personnel has fouled India's security environment and has brought forth a series of responses. Islamabad in a show of outrage has held out its "no-war pact" and the offer of mutual inspection of the nuclear facilities. And the U.S. steeped in the way of thinking that forced the discriminatory Nuclear Non-Proliferation Treaty on the non-nuclear nations has been suggesting that a nuclear-free zone be created in South Asia. These proposals hardly meet India's concern over the prospect of nuclear weapons being in the hands of a neighbour whose recent acts—the training of Sikh extremists, for instance—have not been particularly friendly. And the experience of three wars has shown that Islamabad is prone to launch aggressive ventures after a major build up of armaments. A limited nuclear free zone besides being in direct conflict with India's stand on non-proliferation would be of little value, given the propensities and attitudes of dictatorial regimes. Despite demonstrating a capability to build nuclear weapons over a decade ago, India has refrained from actively moving in that direction. Islamabad's bomb venture coming to fruition will transform the scene in South Asia, which could mean that India must revise its policy options.

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CSO: 5150/0012

INDIA

RADIO ON UNACCEPTABILITY OF NONPROLIFERATION TREATY

BK271459 Delhi General Overseas Service in English 1340 GMT 27 Oct 85

[Commentary by K. S. Ramamurty, political commentator on "India and the Nuclear Nonproliferation Treaty"]

[Text] After assuming power about a year ago, the prime minister, Mr Rajiv Gandhi, lost no time in reiterating India's position on the Nuclear Nonproliferation Treaty, NPT for short. The nuclear haves, notably the United Nations [as heard], were most interested in finding out if the change in the regime in Delhi would bring about a change in India's approach to the treaty. In a number of interviews to foreign newspapermen, Mr Rajiv Gandhi has left no one in doubt that India's policy in this regard remained unchanged.

India has been remarkably consistent in its stand on the NPT. Essentially the stand is simple. India is as much opposed to nuclear weapon proliferation as the nuclear weapon powers themselves. But the NPT will not be acceptable because it is mainly designed as a political weapon to divide the nations of the world into nuclear have and nuclear have-not. NPT failed to make vertical proliferation illegal. Vertical proliferation means the continued and unchecked strengthening of the nuclear arsenals for the nuclear weapon states. NPT is preoccupied with the future proliferation by nonnuclear weapon states. The NPT confers all the benefits on a nuclear weapon power and all the burden on the nonnuclear weapon states. It legitimizes all the nuclear weapons so far produced and still continuing to be produced by the nuclear haves. The nuclear have-not are denied the right for nuclear option. Apart from the patent injustice in the arrangement, it also contravenes the UN General Assembly resolution of November 1965 which states that the treaty should

embody an acceptable balance of mutual responsibilities and obligations of the nuclear and nonnuclear powers.

The NPT not only legalized the military inequality between the nuclear and nonnuclear powers but also legitimized the technological inequality. This is evident from various articles of the treaty dealing with safeguards and peaceful uses of nuclear technology. It is obviously invidious to expect a greater part of the world to be dependent on a few nuclear weapon states for the knowledge and application of nuclear technology. This discrimination is what the article dealing with safeguard perpetrates. This article is meant only for the nonnuclear nations. It obliges them to accept the International Atomic Energy Agency safeguards to prevent diversion of fissionable material from peaceful to military uses. The developing nations have insisted that it is the inalienable right of the nonnuclear nations to acquire and develop nuclear technology for peaceful purposes.

Under legislation passed by the U.S. Senate in February 1978, the United States would seek to extend what are called full scope safeguards not only to the reactors it may have supplied to any nation but also to all peaceful nuclear activities in that nation.

India is second to none in the sincerity of its quest for total disarmament, but the NPT in its present form would mean her technological bondage. This is what India has been trying consistently to stress in all the discussions on the nuclear nonproliferation treaty ever since she rejected it in 1968.

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CSO: 5150/0015

INDIA

EDITORIAL LAUDS NUCLEAR POWER DEVELOPMENT

BK061516 Delhi INDIAN EXPRESS in English 31 Oct 85 p 6

[Editorial: "Kudos for Kalpakkam"]

[Text] In a significant development India clinched a notable seventh rank internationally when the 14 megawatt fast breeder test reactor (FBTR) at Kalpakkam near Madras went critical on October 18. By the year 2000 the Department of Atomic Energy (DAE) wants to produce 10,000 megawatts of electricity, which would be a tenth of India's power needs at the time. To the nuclear power plants currently on stream in Tarapur, Kota and Kalpakkam or coming up at Narora (Uttar Pradesh) and Kakrapar (Gujarat), the DAE plans to add 22 more conventional reactors, of which 12 will be of the standardised 235 megawatt capacity and 10 of 500 megawatt capacity. Another DAE target is to install a 500 megawatt reactor of the fast breeder kind by the year 2000. The scientists at the Kalpakkam reactor research centre (RRC) who were responsible for developing the FBTR from a basic French design have rightly earned kudos. Only the U.S., USSR, France, the UK, West Germany and Japan have preceded India. The use of plutonium-rich uranium-carbide fuel in Kalpakkam's FBTR is, however, a unique achievement for which the Bhabha Atomic Research Centre can take credit.

The breeder-reactor is of crucial significance because it allows the use of thorium, with which India is well-endowed. By about 2025 India's limited supplies of natural uranium will be used up. Well before then, however, the country's nuclear stations could be plugged into the thorium cycle. These goals are impressive and probably necessary but the DAE and the nation as a whole must also give continuing and adequate attention to the questions of location, safety and waste management. There has been a measure of unease in Gujarat about the Kakrapar location and some Karnataka environmentalists appear to be unhappy about the selection of the Kaiga site in North Kanara. Dr M.R. Srinivasan, Chairman of the Nuclear Power Board, is no doubt right when he says that a country wanting a zero risk situation will achieve nothing. But it would not be fair to decide or dismiss those stressing questions of safety and waste disposal. The recent Bangalore meet where nuclear scientists and officials met with environmentalists was a sensible step even if it did not immediately produce a consensus.

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CEO: 5150/0016

ISRAEL

ISRAELI NUCLEAR ARMS UPSETTING BALANCE OF POWER

London AL-HAWADITH in Arabic 18 Oct 85 pp 40-41

[Article: "Israel May Resort to Nuclear Attack in One Case Only; Atom Marathon Invades Middle East"]

[Text] Will Israel ultimately resort to extraordinary methods to gain a foothold in its confrontation with the growing Arab tide against it? This is the question being raised in earnest in West European military and political circles. The questioners, who follow what they call the declared daily war between the Israeli presence and the Arab region, say that Israel, in the face of a growing Arab population, the collapse of hopes for a comprehensive settlement, and the escalation of Arab resistance, will inevitably resort, at some point, to the use of tactical nuclear weapons. This is not meant to promote the psychological warfare Israel is nurturing to intimidate the Arab world, for in the next phase, Israel will bring the nuclear weapon equation into play in the showdown conflict and in its confrontation with the growing population which is quickly and sharply tilting in favor of the Arabs in the occupied territory and in neighboring Arab countries, particularly if Egypt, as a large Arab force, returns to the military confrontation arena. This report answers the question related to nuclear power which began growing in the Middle East in the past years and is related to the future of this power.

Special and provocative questions have been raised in West Germany and other European countries about the connection of the thriving business of spy exchanges between Moscow on one side and Bonn and London on the other side to the special and sensitive information about the nuclear power Israel has amassed.

These questions linking the war of spies to Israeli nuclear power were prompted by the awareness of some diplomats and military attaches and several Arab embassies in Europe of the importance of bonds that bring together NATO security and information circles and several European official circles with Mosad. They have been prompted as well by the information obtained by the European side, through the circles in which the spies operated before defecting to East Germany and East Europe and, consequently, their substantial knowledge of Israel's achievements in the manufacture of various kinds of nuclear weapons and the possibility of such information being passed to the Soviet Union which will promptly raise this subject in the bilateral summit meetings between Presidents Gorbachev and Reagan.

Some of those who possess this kind of information go as far as to confirm that the information the Western and the Communist sides have acquired in the last 2 weeks as a result of the war of spies will certainly add to the dossiers of the bilateral summit some exciting factors which can influence the fate of the world in the direction of either peace or war for the next 20 years. One of these factors is the widespread technical expertise in small countries such as Israel which has been able to build a base suitable for the production of nuclear weapons and has acquired the ability to use various kinds of such weapons in the next war with the Arab countries, thus throwing the entire world into the sphere of total nuclear war.

Notwithstanding the scarcity of information about the facts that passed between the West and the Soviet Union through the movement of spies concerning the extent of Israel's nuclear power, a few diplomatic circles last week alluded to the East European countries' ability to get a better picture of Israeli nuclear capabilities and a clearer idea of the military and technical relationship that binds Israel to NATO circles and the United States, particularly following the strategic agreement which has gone into effect between the two countries. This is in addition to the existence of a privileged relationship within the scope of nuclear cooperation between Israel and South Africa marked by a scientific event which occurred in the sixties when nuclear detectors recorded a mysterious nuclear explosion, later said to be the result of joint nuclear cooperation between Israel and South Africa.

In an attempt to exhibit evenhandedness in judging this important aspect, the diplomatic sides that presented this kind of information last week felt the need to make a connection between the information the Western spies may have passed to the Soviet Union about Israel's nuclear power and the information that was supposed to have been passed by Eastern spies who defected to the Western side about the existence or size of Arab nuclear power and the extent of Soviet aid capable of protecting the USSR's Arab allies in the event of an Israeli nuclear attack.

In a special diplomatic conversation in Bonn during a social encounter, an Arab diplomat said that America and the Soviet Union knew the exact size of Israel's nuclear power before the war of spies. They also know Israel's future objectives and the number of years the Arab side needs to build its nuclear capability to achieve a balance of power which can avert the danger of a limited nuclear clash in the Middle East. Furthermore, each side knows how much aid the other offers its allies in this field. Developments in the last 2 years, however, have filled the Soviet Union's Arab allies with serious fears that Israel is on the brink of using limited kinds of tactical nuclear weapons, against Syria especially, in the next liquidation phase which, if passed successfully, will invalidate, in Israel's view, all the equations that were built on its failure in its invasion of Lebanon and that are oriented toward the imposition of a type of formula of which it does not approve.

The Arab diplomat said that the Middle East, or more specifically the Mediterranean basin, has been turned, according to recent Western reports, into a nuclear lake, the perils and size of which are known to some influential countries in the Middle East such as Egypt, and that the application of the

strategic agreement between America and Israel has given the Israeli side an opportunity to stock a limited number of American tactical weapons inside Israeli territory in accordance with a program which will be completed within the next 3 years. The diplomat also said that this agreement has opened the way for Israeli advisors to place some tactical weapons within sight of the boundaries of the Lebanese-Syrian-Jordanian triangle. He corroborated the information which, several months ago, confirmed the truth about the Israeli orientation toward using this kind of weapon in the anticipated confrontation with this triangle, and with the Syrian army in particular, with the aim of destroying any serious resistance against Israel along the eastern front.

The Arab diplomat also said that Richard (Selez) wrote an article in the American AEROSPACE periodical a few months ago to the effect that Israel had deployed "Jericho-2" missiles in the Golan Heights and the Negev Desert and that these missiles have warheads and are mounted on trucks for easy mobility and launches against Arab targets. He said that he obtained this confirmed information as a result of 2 years of careful pursuit of information substantiating Israel's possession of nuclear weapons. He also said that these Israeli missiles have a range of 700 miles, are equipped with precision guidance systems, and add one more capability to the Israeli missile force which as nuclear warheads, atomic weapon bomber transports, and various American missiles capable of affording tactical operations greater maneuverability.

Having stated all these facts, the Arab diplomat said that the superpowers have not taken the initiative to pursue this matter and that the American Department of State has been content, in commenting on this topic, to say, true to form, that it could not confirm this report. This means that the superpowers, which are behind Israeli nuclear power, do not want to take on field measures that would help the world and the UN force Israel to help them apply the terms of the Nuclear Non-proliferation Treaty and oversee it on its soil. This is an incentive for the Arabs, who have not yet proven their ability to possess a striking nuclear power, to seize the initiative to face the growing danger.

With the growing likelihood that this matter will be raised in the bilateral summit between Reagan and Gorbachev, the Arabs have stepped up their efforts to take this issue to the milieu of the superpowers, the UN Security Council, and the UN as a whole in an attempt to agree on an initiative that can help achieve some results.

Inter-Arab contacts on this matter reveal the existence of real fears of Israeli nuclear fingers showing themselves at the eastern front, of these fingers extending to the Gulf as a result of developments in the Iran-Iraq war, of past warnings of Israeli intervention of the Gulf coming true, and of the emergence of the old notion that the Israelis have their eyes on part of the oil sources and passages within the framework of a plan for an Israeli empire.

Some Gulf officials warned against military developments that could lead to the outbreak of an all-out war and talked about the growing danger of a world war breaking out as a result. Egypt, on the other hand, warned against the danger of nuclear proliferation in the Mediterranean basin, calling on three separate occasions in 1 year on the countries of the area to ratify the treaty designating the Middle East and Africa a nuclear-free zone.

The first Egyptian initiative was presented at the Mediterranean countries' conference in Malta through a plan submitted by Minister 'Ismat 'Abd-al-Majid proposing that Africa and the Middle East be kept out of the nuclear conflict in the world through total control over nuclear reactors in the whole region.

At that time, voices at the conference rose to say that the ratification of this plan without Israel's consent can only disarm the Islamic and Arab countries of their nuclear capabilities, limiting such capabilities to the Israeli side which refuses to submit to any kind of inspection and giving the Americans, who have spread their nuclear missiles in the European countries and islands around the Mediterranean and the Middle East, a chance to control the will of the region and its countries for scores of years to come.

In the second and third steps, Egypt continued its efforts to persuade the other countries of its plan which it presented at the UN and later at the third conference to reexamine the Nuclear Non-proliferation Treaty, which was held in Geneva last August.

Egypt said in a statement delivered by Foreign Minister 'Ismat 'Abd-al-Majid that the countries had to apply pressure on the UN Security Council to urge it to adopt measures and arrangements that would neutralize Africa and the Middle East, designating them nuclear-free zones, in order to confront the nuclear danger coming from South Africa, for example, in addition to the Middle East. The statement called for guaranteeing the right of all countries to use nuclear energy for peaceful purposes and to provide protection for peaceful installations so that such capabilities may be used for development purposes.

The UN secretary general is supposed to submit in the next ordinary session a report outlining the results of the contacts he held with the African and Middle Eastern countries, and with the superpowers as well, at the behest of the last session, to determine the appropriate ways to realize this goal.

But what can the UN secretary general say in his report?

The results of the mission of the UN General Secretariat in this regard point to a number of facts that have the characteristic of self-evident truths.

One result is that the Middle East countries, with the exception of Israel, and the African countries, with the exception of South Africa, support the idea of keeping the area out of all aspects of the nuclear struggle and call for control over the countries that produce these kind of weapons and for guarantees limiting the use of the atom to development purposes to avoid any possibility of a confrontation threatening the region.

These countries, however, refuse to be bound by agreements not approved by Israel and South Africa, as they reject the American administration's persistence in moving its nuclear missiles along the region's boundaries under any excuse.

The preambles of research reports on this topic reveal a deeprooted conviction among several Arab countries that nuclear weapons have become, by an Israeli decision, an established means in the strategic war of survival between Israel and the Arabs, that these countries must cooperate with one another, outside the framework of political differences, to develop their own nuclear capabilities and cooperate as well with any international party willing to help them in this regard, and that a large country like Egypt is supposed to steer its efforts in this direction instead of wasting time waiting for a solution in which, everyone knows, Israel does not believe.

A report prepared by Judith Perera on the nuclear race between the Arabs and Israel says that Israel has crossed many limits in building up its nuclear power in this field since 1948 and will not go back and that it possesses a steadily growing collection of nuclear bombs, as well as planes and special missiles carry these bombs.

This is countered by a serious readiness, which Israel is watching with interest, to produce nuclear weapons in Iraq whose nuclear reactor was hit by Israel and which expects to attain nuclear warfare capabilities in the nineties; in Egypt which has institutions and centers for radioactive material and is planning to build 10 nuclear power stations before the end of this century, confident that it will achieve important results in this field; and in Libya where the number of specialized scientists and engineers is growing and where the Soviet Union is offering aid earmarked for the project of building two nuclear reactors for research and energy. America is afraid that these reactors will be used to produce an atom bomb, especially since Libya has sophisticated weapons and missiles that carry this kind of weapon and is conducting tests in the missiles it produces in the Western Desert to enhance its capabilities.

It does not appear that America has the desire or ability to deter a nuclear threat in the Middle East by forcing Israel to submit to the principle of international oversight over its nuclear activities because Israel's nuclear strategy has crossed all limits of control and because cooperation with America itself in this field has made it virtually impossible to go back to the starting point.

For a whole year, Israel has adopted various stances to consolidate its position of refusing all requests to oversee its nuclear programs. It has financed a number of operations to burglarize and steal the means for developing this program.

A quick report explains the dangers of Israeli actions within the scope of nuclear arms production.

NEWSWEEK magazine this year revealed that a closed federal grand jury session began hearings on a case of smuggling to Israel electronic equipment which can be used to manufacture atomic weapons.

The magazine said that the mastermind of this smuggling operation was Israeli film producer Arnon Miletzin who brought into Israel electronic equipment from America used for timing nuclear weapon explosions.

The American administration remained tight-lipped about this affair until the campaign intensified, at which time it was satisfied, following customs investigations, to say that it had asked Israel for clarification. Israel denied this information, then reversed itself by admitting to importing this kind of equipment, claiming that it obtained it for purposes totally unrelated to the production of nuclear weapons and that it was ready to return it to America. Of course, the equipment has not been returned nor did the American administration, which claims to have halted the sale of nuclear equipment to Israel several years ago, have any desire to pursue the matter. Consequently, Israel has kept about 600 Krayton keys in its warehouses.

During the same year as well, a European company exported 47 tons of uranium to Israel. An official spokesman in Europe said that a private company, headquartered in Luxembourg by the name of the International Mineral Exporting Company, exported this amount to Israel secretly and that it was established that Israel was using it for military research. Suspicions centered on a British and French role in sneaking it to Israel.

In a third incident that occurred the same year, America admitted that a nuclear substance sneaked from the United States into Israel could be used to manufacture atomic weapons and that it had no idea how this substance was being used. A State Department spokesman said at the time that America has not exported to Israel any nuclear substances since 1978 and that the spent uranium exported to Israel was a processed substance used in conventional weapons and civilian aircraft.

Amidst the increasing hubbub, America turned to propaganda to cover up its liability, saying that it had requested an inspection of secret Israeli nuclear installations, whereupon Israeli Prime Minister Shimon Peres hastened to say that his government was not aware of any American request to inspect the nuclear facilities, while American diplomatic sources said that the request was prompted by the American-made timers affair and that Israel did not reply to State Department demands because it knew very well that its acceptance of the principle of oversight of its nuclear activities meant.

While the whole world is fumbling in the whirlpool of Israel's unsupervised nuclear activities, promising radical changes in the area, Arab and Islamic countries are preparing for a serious discussion of this matter and are trying to find feasible ways to face them.

The Islamic Conference Organization had announced that the matter of Israel possessing nuclear weapons would be discussed in its summit conference scheduled to be held in Kuwait in 1987.

Pointing to the presence of documents that confirm such production in Israel as well as in South Africa, the organization's secretary general said that there is no doubt that Israel has received assistance in producing nuclear weapons and that the matter is one of grave concern to the Islamic countries.

Israeli nuclear massings, which are said to have approached the borders of the eastern front and may be mere propaganda to raise Israeli morale at home, are not a new development in the Middle East, for Israel had one before turned to nuclear weapons and thought of using them in the confrontation with Egypt and Syria in the 1973 war.

British TV a few months ago reported that nuclear weapons almost made their debut in the 1973 war when the former defense minister, Moshe Dayan, contacted then-prime minister, Golda Meier, on the second day of the war asking permission to ship "Jericho-1" missiles from Dimona to Golan. The TV station said that permission was granted, thus prompting President Anwar al-Sadat to ask for urgent nuclear aid from the USSR, and that Gen George Keenan, director of American air force intelligence, listened in on a conversation between al-Sadat and Brezhnev after which a Soviet destroyer left the port of Odessa on the Black Sea. Land-based radar in Istanbul confirmed that the destroyer was carrying nuclear weapons and that it was headed for the port of Alexandria. This meant that the 1973 war between the Arabs and Israel was a dangerous step toward a nuclear-armed Middle East.

Hence, it appears that there is an ever-widening disparity between the hopes of disarming the Middle East of nuclear weapons and the reality, which indicates that the area is headed in the next 10 years for basic and crucial changes in the balance of military power and consequently, in the consequences of their use.

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CSO: 5100/4507

PAKISTAN

MUSLIM LEAGUE LEADER ATTACKS ALLEGED U.S. DUPPLICITY

GF091510 Islamabad THE MUSLIM in English 2 Nov 85 p 8

[Staff report: "Qasim Warns Against U.S. Duplicity"]

[Text] Islamabad, Nov 1: Malik Mohammad Qasim, secretary general of the Pakistan Muslim League (Khawaja Khairuddin Group) [PML], has attacked President Reagan for describing a possible Indian attack on the Kahuta nuclear installation as a 'regional issue'. He said Reagan's statement clearly indicated that the Americans would not come to the rescue of Pakistan if Indians ever attacked this country. Talking to *THE MUSLIM* here today, Malik Qasim warned against the 'duplicity' in American foreign policy.

The American President's statement, he said, directly affects Pakistan and urged the officials to give it proper weightage. Malik Qasim claimed that it appeared that President Zia's categorical statements during his recent American tour that Pakistan's nuclear programme was peaceful had not been accepted by the Reagan administration.

Malik Qasim said the American military aid, according to their own interpretation, was meant for defence against communism. This means that if the Indians, in collusion with Israel, attacked the Kahuta nuclear installation, the U.S. would not come to our aid.

The PML secretary general passionately urged the government to reappraise its Afghan policy and enter into a direct dialogue with Kabul. He asked the Americans not to interfere because, according to their own interpretation, it was also a 'regional issue'. He reminded the government that the USSR had patently indicated that India was its friend and it would assist it in the event of any regional conflict.

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CSO: 5100/4717

PAKISTAN

THREAT TO NUCLEAR FACILITIES VIEWED

GF091513 Islamabad THE MUSLIM in English 5 Nov 85 p 4

[Editorial: "Threat to Nuclear Facilities"]

[Text] The Iraqi resolution condemning the Israeli attack on its nuclear plant in 1981, embodying also an Iranian amendment to widen the scope of its applicability, adopted by the UN General Assembly with 79 in favour and two — Israel and the United States — against, is a signal victory for the movers. That Iran, which has been at war with Iraq for the past five years, extended full support to the Iraqi resolution fully demonstrates Tehran's commitment to just causes and its outright condemnation of iniquitous acts. Speaking in the General Assembly debate against the dastardly Israeli attack on the Iraqi nuclear reactor, Pakistan's Minister of State for Foreign Affairs, Mr Zain Noorani, declared that any attack from any quarter whatsoever on the nuclear facilities of any country made it imperative that specific action be taken by the world body to prevent repetition of such blatant acts of aggression which call for comprehensive international action. "Such acts", he said, "obviously constitute an act of war" and call for appropriate response against the source from which such attacks emanate.

The malicious propaganda which some countries are prone to initiate against the nuclear installations of states with which they are not on the best of terms, can encourage hostile elements to emulate the example of the Israeli action in knocking out the Iraqi reactor. And once the trend is set, it can start a chain reaction for stronger nations to undertake attacks on the nuclear facilities of weaker nations whose efforts are directed only to supplement their deficiency in sources of energy. Then there are states whose nuclear facilities are fully subject to the safeguards prescribed by the International Atomic Energy Agency (IAEA) which inimical nations may feel tempted to wipe out to settle any score, real or imaginary. Effective steps will therefore have to be taken by the international community to ensure protection to the nuclear facilities installed by peace-loving countries who have no desire to fabricate atomic weapons.

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CSO: 5100/4718

PAKISTAN

INDIA URGED TO END AMBIGUITY ON NUCLEAR ISSUE

BK101325 Delhi INDIAN EXPRESS in English 26 Oct 85 p 6

[Editorial: "Nuclear Non-Policy"]

[Text] Having called on the superpowers to live up to the hopes of mankind and negotiate a nuclear truce leading to nuclear disarmament and peace in the world when they meet at the summit next month, more was expected of Mr Rajiv Gandhi in his statements and discussions in New York on Indo-Pakistan nuclear relations. Has he, however, firmly shut the door on any kind of dialogue on this question, rejecting President Zia's repeated assurances in bilateral talks and before the UN General Assembly of Pakistan's "irrevocable commitment not to acquire nuclear weapons or nuclear explosive devices" which it has "neither the capability nor the desire to develop"?

President Zia told the General Assembly that he had offered India five "equitable non-discriminatory" proposals by which he still stands. These are simultaneous acceptance by both Pakistan and India of the NPT [Nonproliferation Treaty] or fullscope IAEA safeguards, mutual inspection of each other's nuclear facilities, a joint declaration renouncing the acquisition or development of nuclear weapons, or establishment of a nuclear weapon free zone in South Asia. He also favoured a South Asian pact on peaceful nuclear development and hoped the forthcoming SAARC [South Asian Association for Regional Cooperation] summit in Dacca would pave the way towards strengthening peace and security in the region.

Meanwhile, Pakistan is prepared to enter into any other form of mutual agreement with India to keep the sub-continent free of nuclear weapons. This is a very categorical statement which cannot be brushed aside. It is not enough for Mr Gandhi to state that he disbelieves Pakistan and offer no alternative other than asking the United States to apply further pressure on Islamabad. Mr Reagan has said that he is strongly opposed to nuclear proliferation anywhere and that U.S. estimates do not suggest that Pakistan already has the bomb. Both China and Pakistan have also repudiated the curious statement recently made by General Vaidya, Chief of Army Staff, that a covert Pakistan nuclear explosion is imminent at a Chinese test site.

The nuclear question came up in Mr Gandhi's discussions with President Zia in New York, alongside other issues. It was agreed that the two foreign secretaries should soon meet to discuss

problems of terrorism, smuggling, illegal border crossings and trade, presumably partly in response to the Indian compliant of Pakistani complicity in harbouring and training Punjabi extremists and terrorists, an allegation that Pakistan strenuously denies (and a charge it made in reverse when Sind was troubled three years ago). An Indian spokesman disclaimed any agreement between Mr Gandhi and President Zia on initiating technical discussions between the two countries on nuclear non-proliferation issues. It seems the matter did come up but is still at an embryonic stage. Clearly this is a matter that needs serious and energetic follow-up and could be the starting point for a positive dialogue aimed at keeping South Asia nuclear free. The Indian dilemma is that the Chinese have nuclear arms. But this has been the case for two decades. The new factor in India's nuclear calculations is quite clearly Pakistan's intentions. But official thinking on this seems both negative and confused and contradictory to its stance on global disarmament. Some critics believe that the muddle may be explained by a desire to raise a smoke screen behind which India can seek to legitimise launching on a nuclear weapons programme of its own. This hopefully is not the case and will not be permitted to happen as that would be a most foolhardy course to follow. Mr Gandhi's position on the question needs rethinking and clarification. Ambiguity on so vital a matter, which cannot be isolated from its larger implications for the country's external relations and security, does the country no good and can only distort policy.

The assumption that Pakistan can renege on a solemn commitment to the United Nations without attracting harsh consequences, and without a powerful Indian counter, is facile. Even if India's fears of Pakistan's nuclear ambitions are genuine, it has yet to make a credible response. It is said of Hitler that in attacking his opponents he once declared that he did not want higher bread prices; he did not want lower bread prices; nor did he favour the existing price of bread. What he wanted, he thundered, was national socialist bread prices! India wants Pakistan to abjure nuclear weapons; it is not prepared to believe it when it makes such a declaration, and it is unwilling to discuss any proposal to monitor or bar any nuclear weapons development.

Pakistan has certainly not helped its own cause by the devious means it has employed to develop what could be converted into nuclear weapons capability. But then India too has exploded a nuclear device. If Pakistan wants the bomb it is because it is seeking security — against India, not Afghanistan. An Indo-Pakistani rapprochement rather than a stand-off would advance that cause. This is something to which the two governments must turn. The foreign secretaries' meeting offers one more opportunity.

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CSO: 5100/4719

PAKISTAN

INDIAN 'PROPAGANDA' ON NUCLEAR CAPABILITY VIEWED

CF171502 Lahore NAWA-E WAQT in Urdu 8 Nov 85 p 3

[Editorial: "Nail the Lies"]

[Excerpts] Mr Zain Noorani, the minister of state for foreign affairs, has said that the propaganda against Pakistan is being used as a smoke screen for increasing its [India's] own nuclear capability and that it has accumulated large quantities of plutonium which can be used to manufacture nuclear arms. He was speaking at a National Assembly session and answering the questions of members regarding the malicious propaganda which Mr Rajiv Gandhi continues to carry on against Pakistan and which was much in evidence in his recent UN trip, when he alleged in an interview with the U.S. press that Pakistan is aiding and abetting the Sikhs.

Mr Zain Noorani refuted the Indian Government's allegations and accusations regarding aiding the Sikhs, calling them baseless. He said India has not been able to present any evidence on Pakistan's nuclear program. Regarding the Indian prime minister's accusations, he referred to Pakistani proposals and efforts for mutual supervision of nuclear installations and to keep the Indo-Pakistan subcontinent a nuclear-free region.

Despite the propaganda by Indian and Western circles regarding Pakistan's nuclear program and President Ziaul Haq's speech at the UN General Assembly reaffirming that Pakistan does not have the intention of nor the capability to manufacture nuclear weapons, and that our sole objective is to obtain nuclear knowledge for the sake of energy — instead of hailing and

lauding President Ziaul Haq's frankness and pacifism, Indian Prime Minister Gandhi attributed certain quotes to President Reagan, saying that "he should halt Pakistan's nuclear program if it reaches a point at which it is not possible to turn back." Official U.S. sources immediately refuted these utterances. Mr Gandhi has refrained from repeating it since, but he has not decreased the tempo of his anti-Pakistan campaign.

It is heartening to note that Mr Zain Noorani has not contented himself with merely clarifying our stance, but has also pointed out in detail the dangerous repercussions of India's nuclear program. The need of the hour is that this should be repeatedly proclaimed at every forum and at every juncture. There should be no hesitation in making the world aware of facts. This has become imperative in view of the fact that Indian parliament members and former judges, retired generals, and prominent journalists stated in a joint statement that "whether there is a nuclear bomb in South Asia depends on the Indian Government's decision" when the Indian leaders are claiming that Pakistan is instigating it to manufacture a nuclear bomb! The statement by prominent Indians points to the basic reality which Pakistan should expose to the whole world. We should not labor under the delusion that the Indian leaders will cease their litany against Pakistan or halt their false and baseless propaganda, but at least the facts presented in the statement by prominent Indians should be brought to the world's attention, and the "liar should be nailed."

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CSO: 5100/4721

PAKISTAN

ZIA TALKS ABOUT THREAT TO NUCLEAR REACTOR

PM131138 Jeddah 'UKAZ in Arabic 6 Nov 85 pp 1, 6

[Report on interview with President Mohammad Ziaul Haq by Muhammad Mahjub in Jeddah; date not given]

(Excerpts) Pakistani President General Mohammad Ziaul Haq has emphasized that Saudi-Pakistani relations are ideal and fraternal. He praised His Majesty King Fahd ibn 'Abd al-'Aziz' wisdom and leading role in the Islamic world.

In an interview with 'UKAZ the Pakistani president said that the Islamic Good Offices Committee is continuing its efforts to end the Iraq-Iran war.

[Mahjub] You have warned Israel against attacking the Pakistani nuclear reactor. How capable is Israel of doing that?

[Ziaul Haq] We have no evidence of an Israeli threat to Pakistan, but there are rumors that certain sides are helping some states to commit aggression against us. We do not know these states but we believe that they may be Israel and some other states, including Afghanistan and the Soviet Union. All this means that we should protect and defend our nuclear installations. It would be better not to raise such questions. We want good relations with our neighbors, including India. That is why, despite all provocations, we still believe in and follow the principles of peace.

We have quashed the rumors which had threatened the relations between the two countries.

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CSO: 5100/4719

PAKISTAN

NUCLEAR AMBITIONS IN SUBCONTINENT DENOUNCED

Lahore VIEWPOINT in English 31 Oct 85 pp 5-6

[Text]

SINCE OUR PLEA in mid-summer for an end to subcontinental bombast related to nuclear arms and first strikes, and for a return to rational realism, the Indo-Pakistan scene has palpably deteriorated. For reasons that are not quite clear, the debate on nuclear weapons and talk of war have become more strident, largely, it seems, on India's initiative. It is difficult to accept the theory being bandied about that, having evolved soft policies to cope – most successfully – with long-standing domestic crises, Rajiv Gandhi considers it advantageous to adopt a tough posture in his dealings with Pakistan in order to maintain the popular support that he has inherited or acquired since Mrs Indira Gandhi's tragic end. First, for many years now anti-Pakistan diatribes or breast-beating over partition have lost their appeal with Indian voters, even in the northern belt. Further, India's young Prime Minister has given evidence of so much good sense that he would be expected to reject advice on starting dubious manoeuvres in a mine-laden field that, providing for confrontation that will at least hold up

the process of normalization, will also revive tensions followed by border clashes and risk of worse.

Despite Indo-Pakistan meetings at various levels, the miasma of mistrust has not been dispersed. Indian spokesmen and publicists accept any rumour or report that supports their new pet thesis that Pakistan is not only preparing for war but may even be readying for nuclear war. To consider one example, when Jack Anderson, the well-known Washington sensationalist, declared that Pakistan already had the bomb, everybody in India accepted the report and started talking of an adequate response; but when he reported that India had fabricated an H-bomb, he was condemned as a Yankee liar. In Pakistan, the selective credibility given to Anderson was, of course, reversed. Apart from nuclear and related polemics, unsettled claims to the Siachin Glacier have led to fierce clashes which have lately spread along the line-of-control to the south. India's Army Chief has called for an alert in the forces, and the usual allegations are being made on both sides of troop concentrations along

the border. More, India's growing A-bomb lobby has found a new opportunity to demand forcefully that India should forget all about truth and non-violence and surreptitiously acquire full membership of the world nuclear club.

In Pakistan, top Government spokesmen repeatedly affirm that Pakistan has neither the capacity nor the desire to fabricate a nuclear weapon. However, lower down in the official echelons different noises are made, claiming that Pakistan can produce the Bomb at short notice, and also that it should do so in view of the threat posed by India's proven nuclear capacity. What is more unusual, in recent weeks, at least two politicians - who have so far not been known for many wild ideas - have avowedly reacted to the Indian propaganda by declaring that Pakistan should go ahead with production of an atom bomb. Such demands make no sense, but they will lend strength to India's N-bomb lobby and corrode conviction across the border in respect of Pakistan's declarations of honest intent.

It is utterly fantastic that these two neighbours should dare think of war when the main factors common to their existence are grinding poverty, malnutrition and mass illiteracy, when death starts stalking their populations in early childhood, and the majority of those who

survive early death live in ignorance and penury, slaves to a way of life that they have not been able to change during four long decades. And the reason why their peoples continue to suffer is that the bulk of the countries' resources are devoted to the purchase or manufacture of arms, and plans made for national rehabilitation have repeatedly been buried in the field of battle. Other consequences of the running conflict include polarisation on the sub-continent, the weakening of their positions as independent States, and making both dependent in one way or another on foreign political and economic support. Now, not content with conducting an arms race, voices are heard on both sides of the border urging the governments to follow the mad course of acquiring atomic weapons. Pakistan and India must realize that the collision course which they seem to be traversing can only lead to utter disaster even if the ultimate collision can be avoided. It is vital, therefore, that the two governments should begin comprehensive talks on all disputes, and that the first item on the agenda should be that of their nuclear policies. The prevailing mistrust makes the task even more urgent, and if the proposals made so far are considered inadequate let the two sides sit across the table and consider more adequate means to find solutions to all problems of common interest.

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CSO: 5100/4720

PAKISTAN

BRIGHTEST SCIENTIST SAID SPURNED

Lahore NAWA-I-WAQT in Urdu 12 Oct 85 p 3

[Article by Zafar Iqbal in the column "Party Politics": "Akbar Under the Veil of Asghar"]

[Text] There is no doubt that this most beautiful country embodies many hidden and open treasures; although there are also those here who deny this reality and insist on this denial. They, with rare exception, eat of this country, but sing songs in praise of others. However, there is one such treasure the existence of which cannot be denied by anyone. That treasure is individual potentiality, which, apparently, is being utilized satisfactorily, both within the country and abroad. However, we often demonstrate evidence of extreme cruelty, carelessness and unselfishness with regard to the recognition and productiveness of the individual faculty which is connected with being a genius. The consequence of which is, that basically the talent (the jewel) is ours, but its splendour is not in our destiny, and someone else carries it away.

The story of Mohammad Asghar is about such a lustrous jewel, which is dazzling the whole of France with its brightness. When this boy topped the Board in the 1954 matric [high school] exam, he did not have enough money to gain admission in the first year. At that time, Mian Saeedur Rehman Farakh was the president of the union of the Government College of Sahiwal. At present, he is the senior advocate of the Lahore High Court. When he learned about this matter, he discussed it with the principal, F.M. Khan, who is deceased now. Through his efforts, Mohammad Asghar was provided with money from the union fund, and he was granted admission in the college and then in the hostel. During those days, since the students brought their own beds and Mohammad Asghar had none, he slept on a mat on the floor. Anyhow, he topped the Board in the F.Sc. exam, too. After that, in the B.Sc. exam, he scored first in the university. Not only that, but the records he set in these three exams have not yet been broken. Also the record he established for the M.Sc. Nuclear Physics has yet to be beaten. The university provided him with a scholarship and employed him as a research scholar there. Later on, he was appointed as an ad hoc lecturer in the university. He was selected for a very valuable scholarship known as the Rhodes Scholarship, which is granted every year, and there is only one scholarship for Asia. On this scholarship, therefore, Mohammad Asghar took

a M.Sc. (Physics) with honors from a British university. From the same university, he also took a M.Sc. in Nuclear Physics. When he returned to Pakistan, Mr I.H. Usmani of CSP [Civil Service of Pakistan] was the chairman of the Pakistan Atomic Energy Commission. He appointed Asghar to work at the desk as a section officer. During that period, a paper on the subject of atomic energy was to be read at a world conference. Mr Usmani, therefore, told Mohammad Asghar to write that paper. After doing original research, he prepared the thesis and showed it to Mr Usmani. Mr Usmani not only liked it, but also told Mohammad Asghar that he himself would go to the world conference and read the paper. But Mohammad Asghar refused to grant him permission for that and said that since the thesis was the fruit of his own hard work, he himself would read it. The matter reached Ayub Khan, the country's president at that time. Mohammad Asghar's stand was granted acceptance, and he himself went to France and presented his thesis to the conference. Upon that, the French people recognized this hidden jewel and asked him to stay there for research work. Since a work contract with the government of Pakistan was the obstacle in the way, the French government paid the Pakistani government the total amount entered in the bond and employed Mohammad Asghar. He worked there and he played a prominent role in the first atomic explosion carried out by France. Not only that, but he also enjoys the honor of accomplishing the journey from the atomic bomb to the hydrogen bomb explosion for France in the least possible time. During this period, Mohammad Asghar came to Pakistan, too, but a French commando also accompanied him in order to take him back safe and sound. Mohammad Asghar has married there. He is not permitted to go out of France, nor is any Pakistani allowed to meet with him. He enjoys all the facilities of the world. His older brother Abdul Sattar, a former soldier, is the librarian and clerk of the Sahiwal Bar Association. From time to time, Mohammad Asghar sends him money with which he buys agricultural lands in Mohammad Asghar's name.

The degree of caution in Mohammad Asghar's security is such that there is an anecdote which will be a source of interest to the readers. During those days, Mian Lateef was an official in the Department of Agriculture at Sahiwal. His son-in-law was a doctor in Canada. When the latter was coming with his wife from Canada to Pakistan via France, he told an officer at an airport in France that he wished to meet with Mohammad Asghar. Upon that, both husband and wife had their passports seized, and they were locked in a room at the airport. At the same time, another Pakistani, who was from Sahiwal, passed through there. When he learned of the situation, he somehow contacted Mohammad Asghar, upon whose orders this couple was freed from the locked room of the airport and was sent on their way to Pakistan.

However, they were not at all allowed to meet with Mohammad Asghar. With regard to this, there is another similar anecdote. During that time, Mohammad Asghar was sent to America to participate in a conference. The American scientists there were so impressed by his original thesis that, surprisingly enough, they offered him so many compensations that he agreed to stay in America. The Americans told him that they would pay France as much money as it desired. However, when the time came to sign the written papers, Asghar's AD'S [sic] who accompanied him, told him that he was actually a French commando, and that he was ordered by the French government

to take Mohammad Asghar back to France, alive or dead. Perceiving his life in danger, therefore, he refused to sign the papers and returned to France. After that, he was never allowed to go out of France.

To make a long story short, therefore, the rare jewel, who was a点缀 the work at a desk in our country, has been put to work at the right job by France. So far, no government has either felt the need or even tried to bring that valuable asset of this country back to Pakistan. This one individual alone could have brought about a great revolution in this country. The late Bhutto used to make claims about bringing Abdul Qadeer Khan back to Pakistan. However, so far, no one has paid any attention to Mohammad Asghar. This small household of a small Arain family lived in settlement No 9/14 in the district of Sahiwal. The land they owned was so small that [a son] had no money for admission to the college. Even now, Mohammad Asghar's brother, Abdul Sattar, rides his bicycle daily from his land, that is, from a distance of 12 miles, to Sahiwal to perform his job. But he does not utilize the money sent to him by his brother; although he and everyone else are well aware of the fact that Mohammad Asghar will never return now. Perhaps, these are the very pearls of wisdom about whom Iqbal spoke with deep sorrow, saying, "When we see them in Europe, we are heartbroken."

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PAKISTAN

BRIEFS

TI RIFT OVER NUCLEAR ISSUE--Lahore, Oct 28--Differences surfacing in the Tehrik-e-Istiqlal as reflected in a move against Aitzaz Ahsan, a member of National Working Committee, involved basic policy issues concerning the character and future course of the Party. Allegations against Aitzaz Ahsan requiring inquiry by a disciplinary committee have not been made public so far but it seems that action against him was necessitated on account of his recent statements taking exception to the statements given by his Party chief Asghar Khan during his tour abroad. According to informed sources the TIP high command had taken serious view of Aitzaz's somewhat critical comments on Asghar Khan's statements urging Pakistan not to go nuclear and open its nuclear installations meant for peaceful purposes to international inspection. Instances of further "indiscipline" noticed in Aitzaz Ahsan are his protesting posture in complaining that the Party chief was throwing the Party into the lap of US and Britain thus defacing the somewhat liberal and progressive character of the Party. According to TIP sources by discussing such vital matters in the newspapers rather than within the Party, Mr Aitzaz went beyond the limits of Party discipline. He was perhaps preparing to stage his exit from the Party, the said sources opined. [Text] [Islamabad THE MUSLIM in English 29 Oct 85 p 8] 9317

NUCLEAR COOPERATION WITH EGYPT--Responsible sources at the Egyptian leadership level have stressed to AL-RA'Y AL-'AMM that the next stage will witness a development in nuclear cooperation between Egypt and Pakistan to develop nuclear researches and acquired know-how in the two countries. In an exclusive statement to AL-RA'Y AL-'AMM, these sources stated that last week's discussions between Egyptian President Husni Mubarak and Pakistani President Ziaul Haq included the means of developing nuclear cooperation between the two countries. These discussions were held only by the two presidents themselves. These sources disclosed that a basic agreement was signed by the two presidents on mutual benefits to be gained from nuclear research plants and studies in the two countries. They added that it was also agreed to establish a means of exchanging Pakistani expertise in the field of enrichment of nuclear elements for Egyptian expertise in the practical uses of nuclear enrichments. [Text] [Kuwait AL-RA'Y AL-'AMM in Arabic 10 Nov 85 p 1 GF] /9274

CSO: 5100/4721

KENYA

BRIEFS

NUCLEAR FACILITIES FOR TRAINING--Nuclear facilities are now available in Kenya and have been developed to a level where they can be used to provide training for Kenyan and other African scientists. The Centre for Nuclear Research Techniques and radiochemistry laboratories, both funded by the International Atomic Energy Agency, will be fully operational at the University of Nairobi in the near future, it has been disclosed. The minister for education, science and technology, Prof Jonathan Ngeno, said yesterday that analytical techniques provided in nuclear training could be useful in research as well as applications in agriculture, veterinary sciences, pollution studies, quality control, geological surveys and mineral exploration. He said this in a speech read on his behalf by his assistant minister, Mr George Muhoho, during the official opening of a course in radiochemistry at the University of Nairobi. [Excerpt] [Nairobi THE STANDARD in English 19 Nov 85 EA] /9317

CSO: 5100/6

FRANCE

GOLFECH 2 NUCLEAR GENERATING UNIT FOR 1986

Paris LE FIGARO in French 15 Oct 85 p 20

[Text] On the occasion of the 40th anniversary of the Atomic Energy Commission, Martin Malvy announced that the start-up of nuclear power stations would continue at the same pace as last year.

Heavens, how beautiful the future will be after the year 2000! But before it can recover its past splendor and glory, the nuclear industry must yet endure a good 15 more years of lean ness.

Such was the impression one received yesterday from most of the speeches made to the colloquium organized for the 40th anniversary of the creation of the Atomic Energy Commission. It was an anniversary without special pomp, unless it was in the quality of the scientists present; right up to the secretary of state for energy who emphasized that this is a time of austerity by implicitly announcing that only one nuclear power station unit would be built in 1986.

"In 1985, only one unit was begun," Martin Malvy said. "In all probability it will be the same in 1986." Although the official decision will not be made until the beginning of November, the minister's comments thus confirms what many have been saying previously: construction will be limited to Golfech 2 (1,300 megawatts) in Tarn-et-Garonne. The second so-called "optional" unit, Chooz B2, was kept only out of a desire to play for time.

Fortunately, this decision will have no serious consequences for the supply of electricity. In view of anticipated consumption, the EDF [French Electric Company] did not want to undertake further construction. The EDF management emphasized that a "rigorous" adaptation of new projects to needs, moreover, would have resulted in no units being built in 1985, 1986, and 1987. Nevertheless, this solution, economically desirable for the present, would probably prove to be very costly in the long

term. That was why, in order to maintain the industrial capability, it was decided to avoid an abrupt stoppage and to continue with new projects.

Will the ongoing program be sufficient? The managing director of Framatome, Jean-Claude Leny, was very pessimistic about it, and said that "in the corridors of the Ministry of Industrial Redeployment they talk about option zero: nothing in 1987, 1988, and 1989."

However, that possibility seems completely conjectural. The estimates of future consumption with which the EDF is working with (440 billion kilowatts per hour by the year 2000) implies the construction of an average of 1.5 units per year beginning in 1988.

A Dream to Be Realized

If the nuclear power industry is going through a critical phase in France, its difficulties nevertheless seem quite minor compared with those it is running into in the United States. The words of Mac Collam, president of the Edison Electric Institute seemed to be a warning.

The regulations implemented after the Three Mile Island accident in fact prevent any new construction even though additional supplies will be needed beginning in 1992. Unless there is radical change, Mac Collam said, "no new nuclear installation can be built nor existing ones operated in an efficient way from the economic and security point of view."

Only Vandryes, managing assistant to the AEC general manager, was very hopeful. "I am convinced that the turn of the century will see a revival of nuclear power programs," he declared. "In Europe, I see the signs of fresh interest on the near horizon in such countries as Great Britain, the Netherlands and Italy. In the USSR, we may expect substantial development in civil programs."

But in the meantime, life must go on. So although the AEC is still a leading research center, with a research budget of Fr 16 billion in 1984, it has also progressively been transformed into an industrial enterprise with a 1984 turnover of Fr 24.4 billion. Of this amount, 80 percent was earned by COGEMA through its fuel cycle operations.

Industrial diversification, which has been the AEC's dream for many years, remains to be achieved.

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FRANCE

SWITZERLAND TO PARTICIPATE IN FRENCH NUCLEAR POWER GRID

Paris LE FIGARO in French 15 Oct p 18

[Article by Laurent Mossu: "Switzerland Invests in France: It Will Participate in the French Nuclear Power Network"]

[Text] To take care of its energy needs, the Swiss Confederation has just invested 1 billion Swiss francs--approximately 3.6 billion French francs--in France.

The agreement was reached between Participating Nuclear Power Stations Ltd., CNP, a company which unites the three firms responsible for the Swiss energy supply, and the EDF [French Electric Company]. It calls for a 10 year involvement in the French nuclear power network.

The Swiss contribution must cover operating investments and expenses, and the contract stipulates that the price per kilowatt/hour will be in relation to the price of fuel at the time of the deliveries provided for after 1990.

The CNP has acquired the rights for 10 years to the output provided by 550 megawatts of power, in other words the equivalent of half a nuclear power station. The supply of energy will be made when units three and four of the Cattenom power station in Moselle are started up.

Currently, five reactors are in operation in Switzerland. Various plans to build stations have been an issue in internal politics for years. Experts agree that the establishment of at least one new power station is absolutely necessary before the end of the century.

A Temporary Measure

For their part, the energy producers believe that at least two reactors should be built to meet consumer demand. In winter, when hydroelectric power output is lower, Switzerland reaches the lowest acceptable security limit in its supply. Now it is

turning to foreign countries to buy electricity.

In Switzerland, the agreement worked out is labeled a temporary measure with the task of easing the difficulties resulting from administrative and political red tape which slows any decision on the construction of a new reactor. The Swiss energy supply authorities hope that the go-ahead will soon be given to the project under discussion. In the meantime, they are protecting themselves against any eventuality.

Collaboration with France dates back several years. In the past, supply rights were acquired from the Fessenheim power station. Similarly, the EDF was among the promoters, and therefore the suppliers of capital, of the Kaiseraugst plant. Its initial participation amounted to 20 percent but at the beginning of 1985, because of delays in payments, its share was reduced to 7.5 percent.

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SPAIN

ALMARAZ NUCLEAR POWER PLANT EXPERIENCING ANOMALIES

Madrid EL PAIS in Spanish 2 Aug 85 p 37

[Article by Benigno Varillas: "The Almaraz Nuclear Powerplant has Shortcomings in its Electrical Installations, says Company Document"]

[Text] Madrid--A hitherto publicly unrevealed document dated 15 December 1983, signed by the present director of the Almaraz (Caceres) nuclear powerplant, Jose M. Fernandez Mesa, has revealed a number of shortcomings in the electrical installations of this powerplant, which could result in a general electrical power outage throughout Spain. In it he informs his superiors about a short circuit and subsequent fire in the electrical installation between the generator and the electrical power distribution system which ties into the Spanish commercial network.

During these past years, Almaraz has been operating with these anomalies, which although they do not affect the safety of the powerplant, could cause great problems in the electrical supply of the country. As far as is known, the Nuclear Safety Council (CSU) has never remarked on these on going problems. The repetition of this accident--one already took place in 1978 during the preoperational test phase--could be particularly serious if it were to take place during summer or at night, periods in which 80 percent of the country's power is produced by the nuclear powerplants.

Phase conductors of the electrical system located in the turbine building are exposed to heating because of their closeness to the piping of the secondary circuit and because of steam leaks. This supply to the distribution bars of the powerplant from the transformers is accomplished by means of grouped phase conductors which have part of their run exposed to the weather and another and another internal run, the one which heated and burned in the 1983 incident, located in the turbine building. According to the aforementioned document, "the outdoor part is subjected to outdoor inclemencies, one of the conductors suffering a short circuit, with a subsequent fire, as a result of the entry of rain water into the vertical run." This took place, as has already been said, in 1978.

However, despite the new short circuit in 1983, officials of the powerplant have not yet resolved the shortcomings and have only begun the construction

of a fourth diesel generator that in an emergency will prevent them from having to stop both reactors at once, causing the failure of the entire high voltage network.

Danger of Contamination

In the opinion of several experts, Almaraz could not at this time obtain its operating license without correcting these technical shortcomings. The only explanation they can find for not proceeding to the resolution of these problems is that every day the powerplant is idle, around 100 million pesetas are lost and repairs of these installations would require a stoppage of the powerplant for a relatively long time.

Another report that has caused a sharp reaction in political circles has been the detection of radioactive contamination in the secondary cooling circuit of the nuclear powerplant, resulting from a leakage of liquid from the primary circuit. The existence of this anomaly, estimated at first as a leakage of a liter of contaminated water per day, was revealed to the CSN last 7 June by officials of the powerplant.

The rate of contamination considered dangerous is estimated at 1,000 liters per day, and it is supposed that the measurement and warning systems will allow the detection of this increase when it takes place so that the powerplant will shut down in case of emergency. However, this contamination is causing great concern, since for years it has been announced that design shortcomings in the Almaraz type of reactors, together with the errors that have been committed in the handling of cooling water supply chemistry, would conclude by causing the rupturing of several cooling pipes and that this serious accident would be preceded by the appearance of cracks in them.

There is a great deal of information on these types of accidents. Two models of powerplants similar to that of Almaraz had ruptures in the piping of their cooling circuits for identical reasons. The accidents took place in 1981 in the Swedish Ringals powerplant, and in the Ginna Ontario powerplant in the United States in 1982. In the latter case there was a radioactive leak into the atmosphere, which caused an emergency and the evacuation of the population of the affected zone.

The possibility of arriving at such a situation in the northwestern part of the province of Caceres worries Spanish authorities. In an appearance before the Industry Committee of the Congress of Deputies last 19 June, Director General of Civilian Protection Figueruelo Almazan made it very clear that no means are available for confronting a nuclear emergency.

Investing in Safety

According to him, 6.9 billion pesetas in initial expenditures are needed and 288 million more to insure the permanence of emergency plans developed on paper. However Finance and Industry have rejected the possibility of making those expenditures.

He also pointed to the seriousness of the fact that a declaration of public emergency because of a nuclear accident depends on the pertinent information from the director of the powerplant or the shift supervisor. "We," declared Figueruelo Almazan to the deputies, "have told the CSN about our concern about the objectivity of the information. Experience has shown that in some cases the officials of the nuclear powerplants do not report in due time or do not reveal what is happening in all its dimensions."

In the document prepared by the Industry Committee on the reports presented to the Parliament by the CSN, it is said that "there appear to be problems of acceptance of the authority of the CSN by the chief of the Almaraz Nuclear Powerplant, since the CSN has been forced to propose a penalty for the delay in providing relevant information on the powerplant."

Penalties for Withholding Information

The Almaraz Nuclear Powerplant has always been surrounded by great secrecy, for which reason those responsible for the safety of citizens have shown concern over the information that may be provided to them in case of an emergency. The CSN has already been forced to impose penalties three times on the Almaraz powerplant for withholding information on incidents which have taken place inside the powerplant.

The CSN fined the company 50,000, 410,000 and 7 million pesetas consecutively for not reporting on the dropping of a fuel element that was being inserted into a core during a reloading which took place in March 1984, and the dropping, days later, of one of the used rods when it was being removed from the reactor. The latter incident was even more serious because once the elements are burned they become highly radioactive and it contaminated several workers. Previously, on 21 November 1983, there was a leak in the secondary cooling system of which the CSN was notified 3 months later. Among other irregularities observed in this powerplant, which resulted in the aforementioned penalties, there is also the one of having raised the power of a reactor to 75 percent of its capacity without permission from the CSN.

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